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ABSTRACT

This DELPHI survey, undertaken as a part of the Council for Exceptional Children project on professional standards and guidelines, was intended to provide input to the project staff, feedback to the respondents, and in ormation to all interested persons in the field on trends and issues in the field of special education. The query domains included the traditional professional topics--recruitment, selection, preparation, certification, accreditation, professional performance--plus several general areas of future predictions. Persons surveyed in both rounds included state directors of special education and of teacher certification, college administrators, college faculty in speech and hearing and in special education, college students in the field of special education, regular school administrators and classroom teachers, special education administrators and teachers, speech and hearing therapists in local schools, and leaders in special education. This report consists mainly of Round I results with a brief summary of Round II results. Appended are the questionnaires used in Round I and Round II and a summary of response statistics for Round I. (DDO)

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DELPHI SURVEY

A Report of Rounds I and II

Conducted for

The Professional Standards and Guidelines Project

of the

Council for Exceptional Children

by

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SPECIAL EDUCATORS FOR THE FUTURE

Introduction

As a part of the Council for Exceptional Children's project on Professional Standards and Guidelines, a survey was undertaken of future predictions and preferences among a broad group of special educators and samples of several occupationally related groups of persons. The survey was planned to be iterative in procedure, that is, to query the same respondents on the same questions repeatedly so that trends could be observed. These techniques are known as DELPHI procedures; they were developed and used first by the Rand Corporation.[1]

So far, the survey has gone through two rounds. Respondents received a feedback of Round I results as part of their information for completing the survey form at Round II. Although the survey form could be used again in the near or remote future, it is assumed now that only some of the items will be repeated and new items that reflect emerging concerns will be added.

This report consists mainly of Round I results with a brief summary of Round II results. The general purpose of the survey was to ascertain the predictions and preferences of special educators and samples of certain other significant groups on key issues in the field of professional standards and guidelines. Specifically, the survey was planned to serve the following purposes:

1. To inform the staff, advisors, and other participants in the CEC Professional Standards and Guidelines (PS&G) project of the central tendencies and divergences of opinion on items relating to the recruitment, selection, preparation, certification, placement, and continuing professional performance of special education personnel, and to the accreditation of preparation programs.
2. To provide "feedback" to respondents on the survey data and to report the total survey to the field as a basis for the "education" of all persons who are concerned with professional standards and guidelines in special education.
3. To help detect issues on which there are especially significant discrepancies between predictions and preferences, or other signs of ferment which indicate domains in which the PS&G project should concentrate its study resources over the next several years.

The total plan of the PS&G project includes a broad pattern of educational activities, a series of conferences, the development of a set of policies, and other elements. The DELPHI survey reported here is but one input in the total project.

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[1] Helmer, O. Social technology. New York: Basic Books, 1966. See also Weaver, W. T. The DELPHI forecasting method. Phi Delta Kappan, 1971 (Jan.), 267-271.

Procedures

The Survey Form

The survey form used in Rounds I and II was developed on the basis of several kinds of information, including the following:

1. An issues domain as specified in a physical meeting of the PS&G project advisory committee.
2. An unstructured survey distributed to 1300 members of CEC.[2]
3. A structured rating on the topical importance of 30 items, which was also sent to the 1300 CEC members.
4. Consideration of the traditional topics covered in professional standards activities (i.e., recruitment, selection, preparation, certification, placement, accreditation, and continuing professional performance).

A copy of the survey form, on which is marked the summary of the results obtained on Round I, is attached as Appendix A. This marked form was sent to the respondents for Round II.

In an attempt to correct for the usual conservative bias of surveys oriented to contemporaneous professional standards, it was decided to orient the survey items to the future, but a relative short-range future. With this orientation, the items are related to actual and current practical decisions or to those likely to be presented in the future. The committee did not want to engage in remote speculations which might be titillating but which have no organic ties to the real decisions and responsibilities of special educators. Thus, the time frame was established as "the next ten years."

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[2] Responses were received from approximately 400 persons. A summary of results on the first 207 responses was prepared under the title, "A Note on the Future of Special Education," by Maynard C. Reynolds & Offa Lou Jenkins, for presentation at a general session of the CEC Convention in April 1973, and for distribution to all CEC units maintaining liaison with the PS&G project.

It was also decided that items should permit respondents to communicate both their predictions of future events and their views on the desirability of such events. If one assumes that the future, in some measure, will be the result of human awarenesses, preferences, decisions, and action, an analysis of discrepancies between predictions and preferences should suggest arenas in which applied efforts might influence the future. The format of most items (56 out of 100) was like the following example:

Change Statement	Likelihood: What is the likelihood this change will occur? (Circle One) Impossible 1 2 3 4 5 6 7 Virtually Certain	Desirability: Should this change occur? (Circle One) No 1 2 3 4 5 6 7 Yes
Installation in regular schools of broad systems for individualizing instruction will make in possible for many children with mild and moderate degrees of handicaps to remain in regular classes and thus to remove them from the field of special education	1 2 3 4 5 6 7	1 2 3 4 5 6 7

Individual responses and group averages varied between one and seven on both the "likelihood" and "desirability" scales.

In discussing results of Rounds I and II of the survey, the following terms and definitions are used:

Values observed	"Likelihood" terms	"Desirability" terms
6 - 7	Very likely	Highly desirable
5 - 5.99	Likely	Desirable
4.5 - 4.99	Somewhat likely	Somewhat desirable
3.5 - 4.49	Noncommitted	Noncommitted
3 - 3.49	Somewhat unlikely	Somewhat undesirable
2 - 2.99	Unlikely	Undesirable
1 - 1.99	Very unlikely	Very undesirable

On item #1 (see above), for example, the mean response on "likelihood" was 5.0 and on "desirability," 6.1. In discussing these responses, this report uses the convention, "according to the general group of respondents, the event described in the item is *likely* to occur in the next decade and it is *highly desirable* that this should happen." Although response results are available in means, medians, and modes, the results on central tendencies cited in this text refer to the mean unless specified otherwise.

The measure of dispersion of responses used in this report is the standard deviation (SD). In discussing differences of opinion or dispersion among individual responses, the following conventions are used:

SD	Descriptor
Above 1.5	Greatly variable
1.0 to 1.5	Quite variable
.50 to .99	Slight variation
Below .50	Good agreement

Again, using item #1 as an example, the SD of responses on "likelihood" for all respondents in Round I was 1.66; on "desirability" it was even larger, 1.73. Using the conventions in these instances, it can be said that our respondents were *greatly variable* in their views on the very important substance of item #1.

The Sample

A total of 2865 persons were sought as Round I respondents. Because of the complex procedures for delivering the survey forms, mainly using special educators as mediators, it is not possible to determine precisely how many possible respondents actually received the forms; 1142 completed forms were returned, which is 40 percent of the potential return.

Somewhat less than half (45.9%) of the respondents were associated with colleges or universities (administrators, faculty, students) and 49.1% with public schools (principals and superintendents, special education administrators and teachers, regular classroom teachers, and speech and hearing therapists). Details of the sample are presented below.

Respondent Group	N of Round I Mailing	N Returned in Round I	Percent of Potential Return
State directors of special education – all states and territories	55	44	88
State directors of teacher Certification	50	36	72
College administrators outside of special education – e.g., vice presidents, deans, assistant deans	400	172	43
College faculty in speech and hearing	100	36	36
College faculty in special education	300	174	58
College students in field of special education	400	178	45
Regular school administrators – e.g., school principals and superintendents	400	113	28
Special education administrators	400	151	38
Special education teachers	300	100	33
Regular classroom teachers	300	84	28
Speech and hearing therapists in local schools	100	21	21
"Leaders" in special education	60	33	55
Totals	2865	1142*	40

In brief, the procedures used in generating the sample were as follows: special education teachers were selected randomly from the 1972-1973 membership rolls of CEC and they were asked both to fill out the survey form themselves and to secure the cooperation of a cohort of regular teachers. A separate but identical procedure was used for obtaining speech and hearing therapists. College professors of special education were sought by addressing a request to the special education office of each college and university appearing in the list of grantees of the USOE Bureau of Education for the Handicapped. The faculty members were each asked to recruit one student and one general college administrator to complete questionnaires. A similar procedure was used for college professors of speech and hearing. A sample of Council of Administrators of Special Education (CASE) members (a Division of CEC) was used as the respondent group of special education administrators and to recruit a cohort of general school administrators. All state and territorial directors of special education were included in the survey as were all state directors of teacher certification. The "leadership" group consisted of current and recent high officers of the Council for Exceptional Children, its several divisions, and a few related organizations.

Results of the Round I survey are available in summary descriptive form separately for each of the respondent groups as well as for the total group. In this report, most of the results presented are for the total group of Round I respondents; when sharp differences were noted among subgroups on any item or topic, the differences are given.

Results were also summarized separately for three classifications of respondents according to the size of the community in which they worked. At the time that only 1062 returns were available, the breakdown on the size of community was as follows:

Community Size (Total Population of All Ages)	Round I Distribution N	%
Below 50,000	475	44.7
50,000 – 300,000	316	29.8
Above 300,000	220	20.7
Not given	51	4.8
Total	1062	100.0

All respondents were requested to classify themselves according to the general predisposition to be an *early* or *late* adopter of new training ideas. At the time of this writing, no evidence bearing on the validity of self-ratings on this variable is available so results must be interpreted very cautiously. The categories and distribution of the self-classifications are summarized below.

Adopter Code	Round I Distribution N	%
Very early adopter	86	8.1
Early adopter	500	47.1
Average adopter	359	33.8
"Wait and See" adopter	74	7.0
Late adopter	17	1.6
Not given	26	2.5
Total	1062	100.1

A few preliminary notes on observations of differences in survey responses by the various adopter groups are discussed in a later section. In the long range it will be of interest to see, for example, whether *early* or *late* adopters are more resistant than others to what has been observed regularly as a convergence of views during feedback-and-iteration processes.

Orientation

Hopefully, it is clear that the PS&G project was launched with every intention that the project staff and advisory committee be aware of the feelings and preferences of the people in and related to the field of special education. The staff and advisors of the project thus made an early and massive effort to sensitize themselves to views of the widely dispersed members of the special education profession and certain related cohorts. Beyond that, there is a commitment to provide feedback to the field on all results obtained and then to seek evidence on whatever changes in views might occur.

It also needs to be clear, however, that the project was launched with the hope that it would provide leadership in the field not merely easily assembled statements of concensus. Because of this context, the survey was oriented to the future and not simply to contemporaneous attitudes and beliefs.

Results: First Round

A copy of the DELPHI questionnaire is included herewith as Appendix A. Summary statistics covering all items are provided in Appendix B.[3] The following results of Round I are summarized by general topics:

Manpower Issues: Recruitment and Selection

A small subset of the survey items dealt with questions in the domains of manpower planning, recruitment, and selection. For the most part, their orientation is to the early or primary aspects of these domains, that is, to basic recruitment for training rather than recruitment for employment. By "recruitment," in this context, one means the building up of a pool of people who are interested in careers in special education; "selection" refers to the process by which decisions are made to admit to the field some individuals from this pool and to reject others. Recruitment and selection, it is hoped, goes on in the framework of carefully considered projections of need and of coordinated use of training resources; these considerations broaden the problem to a manpower domain.

Respondents[4] considered it *somewhat likely* that in the future colleges and universities will form consortiums within states and regions for purposes of planning special education programs; they considered this action *highly desirable* (item #29). Presumably, such planning would involve giving a great deal of attention to data reflecting the needs for various kinds of special education personnel and to the conserving of resources among training institutions so that training programs would show a kind of aggregate balance and concordance with needs. The survey produced no details on how such coordination should be achieved, but clearly these data issue a challenge to institutions of higher education to be more planful and to organize in consortiums which will allow a balancing of specializations among institutions across a state or region.

State directors of special education were less confident than any other subgroup that college consortiums were likely to develop. More than all other subgroups, the "leaders" thought it *highly desirable* that this kind of planning be undertaken.

Respondents gave only *somewhat likely* and *somewhat desirable* responses to an item (#28) dealing with the use of manpower studies to con-

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[3] Readers wishing more detailed tables reflecting results should contact the Project Staff at CEC headquarters.

[4] Unless indicated otherwise, all results presented in this first and largest section are from Round I of the DELPHI survey. A special section near the end of this report deals specifically with Round II data.

trol admissions to special education training programs. The item was undoubtedly ambiguous as it did not specify who would exercise the controls. Perhaps the most noteworthy datum was a standard deviation of 1.71 on the "desirability" of such controls. More so than any other subgroup, college faculty members considered it *desirable* that such controls be used; the undergraduate student groups in special education ranked highest in expectation that such controls would be implemented. Clearly, there is need for the discussion of methods by which manpower studies can and should be related to recruitment and selection issues and to college program planning.

Two items (#30 and #31) dealt with sources for the recruitment of special education personnel. Respondents considered it *somewhat* likely and *desirable* that (a) more special education professional personnel be recruited from the ranks of successful aides and paraprofessionals; and (b) high-school students be recruited to training programs for specific roles in the field of special education. However, the variability was great among the responses to both ideas on their "desirability."

Several items (#47, #55, and #56) of the survey asked for predictions of employment rates for various classes of special education personnel. The results indicated that it is both likely and desirable that more paraprofessionals will be employed in special education over the next decade (#55); it is *likely* and *highly desirable* that special educators will lead the way in expanding programs for handicapped students in secondary and vocational schools (#56); and it is *likely* and *desirable* that the demand for special education supervisors, administrators, and other "leaders" will increase in local education agencies.

Some interesting differences among the subgroups appeared on these topics. Regular teachers, for example, saw substantially less "desirability" in the employment of local special education supervisors/administrators than most other groups. More so than any other subgroup, state directors of special education saw it as both *likely* and *desirable* that more paraprofessionals be employed in special education. The special education teachers subgroup set the high mark on "desirability" that special educators should work to extend secondary and vocational school programs for the handicapped.

Each respondent was asked to make a prediction on the program magnitudes over the next decade for the educable mentally retarded. Because this is such a critical area of discussion and planning at this time, and since, obviously, the survey results on the topic are related to many parts of this report, including recruitment and selection, the results on these items are detailed at this early point.

Questions #61 and #62 were introduced with a common stem as follows:

> Assuming there are about 50,000 special classes for 'educable retarded children' in elementary and secondary schools of the United States this year,[5] how many such classes do you think there will be in
>
> 61. 1978? 62. 1983?

Mean results for the total group were,

1978 — 51,394

1983 — 51,064

They can be fairly interpreted perhaps as a "hold even" projection for the next decade. Regular teachers, speech and hearing therapists, and undergraduate students tended to give high estimates; college faculty in speech and hearing, local special education administrators, and "leaders" in special education tended to give the lowest estimates. The subgroup predicting the greatest decline in EMR classes between 1978 and 1983 was local special education administrators, next were the "leaders," and third were the state directors of special education.

The survey form continued in the same context, asking this question:

> If you had your way, how many such classes would there be in:
>
> 63. 1978? 64. 1983?

Mean results for the total group were:

1978 — 47,068

1983 — 50,659

The means for items #63 and #64 for several of the subgroups follow. These data reflect views on what the respondents would prefer to see occur over the next decade using a "50,000-classes" baseline for 1973 in EMR classes.

	1978	1983
College faculty in special education	46,126	47,099
Graduate students in special education	48,536	53,560
Undergraduate students in special education	59,361	71,386
General school administrators	50,845	51,557
Local special education administrators	38,622	36,241
Special education teachers	51,000	60,356
Regular teachers	58,891	77,481
"Leaders" in special education	40,000	38,750

[5] School year 1972-1973.

Clearly, local administrators and "leaders" in special education prefer to see a downturn in EMR classes. Regular teachers, undergraduate students in special education, and special education teachers believe in increases ranging from about 20 to 60 percent. The reconciliation of these differences in outlook poses a challenge to the field. Incidentally, the data relating to EMR classes did not show a convergence between Rounds I and II of the survey, which contrasts with the findings on almost all other items of the survey.

These few observations on the responses in the domain of manpower/recruitment/selection leave many gaps and unanswered questions, yet they may provide entry points for discussions on such topics as manpower projections, collegiate planning and intercollegiate coordination in manpower planning, specific areas of need development (e.g., secondary school programs) and the establishment of new and more diverse pools for recruitment.

Preparation for Special Education Roles

A high proportion of the DELPHI survey items dealt with preparation questions, initial or entry preparation for the most part as contrasted to continuing education, and quite specifically with the functioning of colleges and universities in the special education field. The results obtained on these items in Round I are discussed below.

Distribution of Higher Education Resources. Several questions were asked in the domain of the distribution of higher education resources in the field of special education among several general functions. It is sometimes asserted, for example, that universities over-emphasize research and neglect training activities. Accordingly, it was thought appropriate and of interest to include some relevant questions. To achieve a first-level differentiation the following question was asked:

> If you had control of all resources in colleges and universities in the field of special education in the U.S. for the next decade, what percentages would you assign to the following kinds of activities or functions? Be sure your total adds up to 100%.

76.	Research and development (developing and testing new ideas)	(19.6)
77.	Training teachers and all other needed special education personnel	(39.5)
78.	Policy development (work on legislation, professional standards, etc.)	(11.0)
79.	Direct services to schools, children and parents (consulting with school districts, contributing to clinical studies, workshops, etc.)	(29.9)

The succeeding question on the survey form called for a finer differentiation of opinion on the training functions of universities and colleges. The mean responses for the total group were as follows:

Considering only training functions, what percentage of the total of special education training resources of colleges and universities of the U.S. would you allocate to training of:

Paraprofessionals for the field of special education?	(11.0)
Special education teachers?	(34.8)
Special education administrators?	(10.9)
Regular teachers in special education concepts and skills?	(21.5)
Research specialists?	(10.3)
College professors for teacher training?	(11.6)

A noteworthy item in the set may be the relatively high percentage (21.5) of training resources suggested for application to regular teachers; at present, allocations to that training function are probably much below the recommended figure.

In general, the subgroups of respondents agreed on the distribution of training resources. However, the groups composed of "leaders" in special education, state directors of special education, and local directors of special education gave the highest ratings to training for regular teachers, and the state directors of special education gave a distinctly low allocation to the preparation of college professors for teacher education.

Curriculum in Teacher Preparation. One item (#24) asked for responses to the general suggestion that teacher preparation programs in special education "will show less standardization" in the next decade. Reversed, the item questioned the amount of innovation likely to be attempted and tolerated in the future in special teacher preparation. Results were in the *noncommitted* and *somewhat desirable* regions, which suggest that the orientation toward innovation or, at least, variation in special teacher preparation programs is on the positive side. The only possibly distinctive subgroup response on this item was that of speech and hearing therapists who, in contrast to other groups, apparently tend to think it *undesirable* to have a variety of programs for teacher preparation.

The issue of required undergraduate vs graduate levels of training for admission to the field of teaching exceptional children was raised in item #17. The results were equivocal; although the respondents considered the possibility *somewhat likely*, they were *noncommitted* on the "desirability" of undergraduate programs being "replaced by graduate programs." Yet

this item showed very great variability on the "desirability" dimension, indicating that this topic, on which there has been wide divergence of opinion in the past, remains a lively topic for current discussions. State directors of special education were the most negative on the "desirability" of shifting to graduate level entry programs.

Several questions dealt with systems for the preparation of teachers. One (item #4) asked for responses to a suggestion that such instruction "will be conducted on the basis of individually negotiated plans rather than according to standard courses and schedules." The results indicated that the respondents were *noncommitted* on the likelihood of such instruction although they considered it *desirable*. Speech and hearing therapists, college faculty in speech and hearing, and graduate students in special education ranked the "likelihood" of this endeavor quite low. State directors of teacher certification and special education progressors, to the contrary, were relatively optimistic about such individualization of teacher preparation over the next decade. All subgroups, with the possible exception of college professors of speech and hearing, tended to see the loosening of college training systems in favor of individualized plans as *desirable*. However, the variation was great among individuals on the "desirability" issue in nearly all subgroups and in the group as a whole.

A related item (#54) was worded as follows: "Performance-based teacher education will sweep the field and become dominant in special education." The mean response on the "likelihood" of this sweep occurring in the next decade was 4.52 (*somewhat likely*); on the "desirability" dimension, the rating was 5.03 (*desirable*), but with very great variability. The subgroups rating this sweep as *most likely* were college students in special education, college faculty in special education, and state directors of special education. The same groups tended to consider the change a *desirable* one.

Two probes (items #3 and #51) were made in the domain of instructional technology. The first asked for judgments on the use of self-contained learning systems for teacher preparation in the field of special education. The item proposed that multimedia modules, computer assisted instruction, and the like would become broadly available and widely used in college programs. The responses averaged 4.55 (*somewhat likely*) and 5.07 (*desirable*), but with great variability on the "desirability" dimension. The second item proposed the diminished use of instructional technology and more "eyeball-to-eyeball" instruction in leader preparation. Responses to this item were *noncommitted* on the "likelihood," but at the *somewhat desirable* level. Again, variability was great on the "desirability"

dimension. Subgroup differences were not remarkable in any way except that speech and hearing therapists showed a relatively strong aversion toward the use of instructional technology in teacher preparation. Apparently, there is very little crystallization of knowledge and preferences relative to the application of instructional technology in teacher education programs.

In the past, few colleges have shown interest in the sharing of materials and ideas for specialized teacher preparation. This lack has had particularly negative effects in special education because of the relatively small and "thin" market area which it represents and which, accordingly, commercial publishers have tended to avoid. Item #25 proposed that new systems will be developed over the next decade to produce a sharing of instructional resources among colleges. Results showed this possibility to be *likely* and *highly desirable*. All subgroups agreed on the high desirability; college faculty, "leaders" in special education, and state directors of special education were relatively less confident than others that sharing behaviors would develop among colleges. Fortunately, the beginnings of such sharing are becoming evident; the initiatives are being taken by college staffs.

A topic of the highest priority concern in teacher preparation in many quarters these days relates to the necessary bridging or linking between colleges and schools to achieve well-coordinated field experiences for students. Two items (#2 and #49) were developed in this domain. The first item was, "College professors of special education will offer a large proportion of their instruction in field situations rather than on the college campus." Respondents felt that it was *somewhat likely* that this shift would occur over the next decade, and *highly desirable* that it *should* happen. The subgroups showing relatively weaker "desirability" values on this item were college faculty and administrators.

A stronger item in this domain (#49) representing a particular point of view which is advanced sometimes, relates to both the recruitment and preparation of specialized teachers.

> The training of specialized teachers will be conducted in large part by offering intensive inservice training modules for selected regular teachers who wish to go into special education.

The results were noncommitted (4.17 and 4.14 respectively) on both "likelihood" and "desirability," with variability very large on "desirability." Apparently, there is little readiness to move virtually all specialized training off-campus, at least in the context proposed by this item.

As colleges and universities have developed increasing numbers of

specialized teacher education sequences, questions have been raised more consistently about the possibility of developing "core" training components that would cut across the traditional categorical domains. Since 1971, the issue has become even more important and practical because the Division of Training Programs of the USOE Bureau of Education for the Handicapped has changed its financial support system for teacher preparation centers to include bloc as well as categorical programs. Item #52 of the survey form tapped opinions in this domain.

> Broadly defined 'core' components will displace at least half of the present categorical instruction now offered in most special education departments of colleges and universities.

Responses for the total group indicated that implementation of "core" training components is only *somewhat likely* but *desirable*. The subgroups considering it *most likely* were state directors of special education, college faculty in special education, local special education administrators, and college administrators. The same subgroups ranked the item higher on "desirability" than did others. Interestingly, state directors of teacher certification showed a relatively large discrepancy on this item, an indication that they considered this occurrence to be much more desirable than likely. The respondents as a whole showed great variability on the "desirability" of "core" programs in special education teacher preparation. Surely, the topic is one for continuing discussion, clarification, and creative work.

Three items (#38, #41, and #44) checked on the firmness of categorical commitments in three areas of teacher education: hearing handicapped, visually handicapped, and speech therapy. The first two items were worded as follows:

> Although some other specializations may disappear or vary considerably from time to time and place to place, teaching the (hearing handicapped) (visually handicapped) will remain a distinctly special area for teacher preparation and service.

The following item related to speech therapy:

> Whether or not other special education areas move toward a noncategorical model, the field of speech therapy will persist on a distinct and separate track.

The results for all three items were as follows:

	"Likelihood"			"Desirability"		
	Description	Mean	SD	Description	Mean	SD
Hearing handicapped	Likely	5.56	1.22	Desirable	5.46	1.58
Visually handicapped	Likely	5.40	1.29	Desirable	5.40	1.58
Speech therapy	Somewhat Likely	4.86	1.38	Somewhat Desirable	4.55	1.81

There is no evidence here that the respondents are willing to see these three categories of preparation changed. However, it is noteworthy that the respondents showed great variability ($SD > 1.5$) on the "desirability" dimension of all three items. For whatever reason, the subgroup of regular teachers seemed more convinced that these specializations should be maintained than did any other group while college faculty in special education tended to be least certain of the "desirability" of such specialization. Therapists and college professors in speech and hearing tended to believe strongly in separate tracks for the three categories but state directors of special education evidenced a distinctly weaker belief.

Two areas of sharply emerging interest in special education which have high importance in teacher preparation are (a) criterion-referenced testing and diagnostic procedures and (b) applied behavior analysis. Items #6 and #53 checked the views of the respondents on these areas.

	"Likelihood"			"Desirability"		
	Description	Mean	SD	Description	Mean	SD
"Applied Behavior Analysis," "Contingency-management" and other approaches to education, which flow from behavioristic principles (Skinner) will be increasingly influential in the field of special education.	*Likely*	5.29	1.16	*Desirable*	5.10	1.49
Criteria-bases or domain referenced testing and diagnostic procedures will largely displace norm-referenced procedures in studying exceptional children.	*Somewhat Likely*	4.97	1.19	*Desirable*	5.80	1.26

These data suggest that both topics are strong elements in the future of special education, although the viewpoints on the "desirability" of installing Skinnerian procedures are quite variable. College administrators, state directors of teacher certification and "leaders" in special education were least convinced of the "desirability" of increasing the application of Skinnerian principles in teaching. Graduate students and "leaders" in special education showed especially strong commitments to the "desirability" of extending the use of criterion or domain-referenced testing procedures.

The Viability of Departments of Special Education in Colleges and Universities. Occasionally one encounters what might be considered a truly devastating view of college departments of special education, one that suggests that the world could survive without them. In many colleges, reorganization processes are emerging which require justification for the continued existence of all the traditional departments, including special education. It was in this context that item #36 was included in the survey.

> Special education departments in colleges and universities will tend to disappear, as such, in favor of functions which emerge in other departments. . . .

The data produced *somewhat unlikely* and *somewhat undesirable* responses (means of 3.31 and 3.30, respectively). However, an extraordinarily large variation (SD = 2.00) was found on the "desirability" of dissolving college departments. No subgroup saw this development as likely but those which saw the possibility, in a relative sense, as most likely were general school administrators, regular teachers, and college faculty in speech and hearing. No subgroup saw the demise of college departments as desirable but, in a relative sense, the subgroups most open to the idea were general school administrators and state directors of teacher certification.

Continuing Education

A small set of items dealt with continuing education. Item #7 projected an increase in continuing and inservice education. The results were unequivocal, showing such an increase to be *likely* and *highly desirable*; all subgroups presented about the same pattern of responses.

The question of who or what agencies might bear particular responsibility for and control of conducting inservice education was approached several ways. The respondents were queried as follows (total group means are given in parentheses):

What percentage of the total funds for continuing education and retraining of special education personnel would you assign to each of the following? Be sure your total adds up to 100%.

86.	Colleges and universities	(37.3)
87.	Local schools	(26.9)
88.	State education departments	(15.8)
89.	Teacher organizations	(6.3)
90.	Individual teachers, for use as they wish	(11.9)
91.	Other	(1.9)

A pattern of "self-serving" responses was clear. College administrators, speech and hearing faculty, and college faculty in special education produced mean percentages of 48.8, 41.6 and 46.8 respectively, all of them very high, on allocations to colleges; local regular and special education administrators gave highest percentage allocations to local schools; state directors of special education put state departments at the head of the list; and special education teachers favored giving almost 20 percent of the funds to individual teachers for use according to individual plans. Perhaps the divergent opinions are somewhat artificial, since people might feel that monies should be distributed one way and effective controls of the operation in another. Nevertheless, it appears that the disagreement is sharp in this domain, with institutions of higher education and state departments of education both claiming a larger share of the resources than the larger community would suggest.

In this same context, item #48 proposed that teachers' associations or unions will control inservice education programs in large part. The total respondent group was *noncommitted* on the "likelihood" and considered such control *undesirable*, but the individual variation on "desirability" was very great (SD = 1.71). Undergraduate students, on-the-job teachers, and therapists tended to be relatively more open to the "desirability" of teacher association or union control, but their idea of the "likelihood" of the control was generally noncommittal.

Item #8 was only secondarily in the domain of continuing education. It queried the bases on which salaries and promotions should be provided to special education personnel, and suggested that performance certeria should supersede time on duty and participation in inservice education as the criteria for promotion and other rewards. The results were *noncommitted* on the "likelihood" of a change in this direction but the change was considered *desirable*. However, the variation among individ-

uals was great on "desirability." In relation to other subgroups, practicing teachers tended to see the change as *undesirable*. A complicating factor in considering this item is the state of our present knowledge on the application of performance criteria. One's attitude on this matter, as toward many others, might vary considerably in accordance with the presence or absence of an assuredly valid technology in the field. In this particular instance it seems safe to say that we lack a fully developed technology for assessing teacher performance; many professionals feel that we lack even a viable theory to guide evaluation.

Certification

The term "certification" is used here to refer to the official state-operated systems by which teachers and some other classes of personnel are individually authorized for employment in the schools. The process involves the development of standards and their regulation or implementation. "Voluntary certification" systems, those by which professional associations offer recognition to individuals who make unusual efforts in professional development or who demonstrate achievements of outstanding competencies, are not considered here.

Importance. Some criticisms of certification and credentialing have been raised among educators. They center on two aspects: that credentialing has been overstressed in our society, and that too often such processes have become the self-serving instruments of professional or occupational incumbents or of training institutions.

In this context, two items were included to test for the "importance" of official state certification of teachers. The first (item #9) suggested indirectly that certification might be unimportant since educators could be depended upon individually "to take only positions for which they are qualified without contingent sanction by any group." The responses were somewhat unlikely on the "likelihood" of such a development although "desirability" was rated at the *somewhat desirable* level. Variability was great on the "desirability" of such high confidence in individual responsibility. Teachers and general school administrators were more favorable to the idea than other subgroups.

The second item (#19) suggested simplification of the state certification process for teachers, with some corresponding increase in the individual's responsibility to document his highly particular competencies. The item read,

> Beyond some general type of special education certification, teachers will document their own competencies thus permitting the simplifi-

cation of specialized certification and/or endorsement procedures by states.

The results on this item were *noncommitted* both on "likelihood" and "desirability," with great variability on "desirability." It may be fair to conclude that Round I respondents, as a group, are unwilling to see state certification processes eroded as a specific control mechanism at this time, but there are signs of ferment that indicate the need to explore alternative procedures and changes.

Numbers and kinds of certificates. Several items explored questions on the number of different kinds of special education certificates which should be available through state departments of education. The questions and total group mean responses follow for items #57 and #58:

> On the average, state departments of education now issue about seven or eight different kinds of special education certificates. How many different kinds of such certification (in special education) will the average state offer in:
>
> 57. 1978 (6.73) 58. 1983? (6.41)

The mean values suggest that the trend will be toward reducing the number of different categories of certification. State directors of special education and "leaders" in special education, as subgroups, estimated that by 1983 only four or five different kinds of certificates will be offered (the mean value for state directors was 4.43; for "leaders," it was 4.55). Regular teachers lead the way in believing that the numbers of kinds of special certificates will actually increase; their mean for 1983 was 8.94. Because of their positions, the means for the state directors of teacher certification may be of particular interest; their mean predictions were 6.15 for 1978 and 6.03 for 1983, which do not differ much from the group means.

The succeeding items (#59 and #60) asked respondents how many different kinds of certificates would be offered in special education in 1978 and 1983 "if you had control of the whole situation." The mean responses were: 1978, 5.40; 1983, 5.51. "Leaders" in special education produced a mean value of 3.61 for 1983; state directors of special education, a value of 3.77, and state directors of teacher certification, a value of 4.36. College faculty members in special education produced a mean value of 4.15. The means of other subgroups were higher, with regular teachers and undergraduate special education students again leading the way in advocating an increased variety of special education certificates.

In general, the above results must be interpreted as strong expressions for reducing the number of different kinds of state certification for

special education teaching. It should be recalled that respondents tended to favor the maintenance of distinctive specialities in three fields: speech therapy, teaching the hearing handicapped, and teaching the visually handicapped. Although the wording of some of the items focused on preparation rather than certification, it may be fair to assume that these three areas are high on the lists for continued special designation or certification. Beyond that, speculation mounts on what categories might be included in a limited set. The results on item #19 (discussed earlier in this section)—the possibility of offering only one general certificate and letting individuals document their further specialization—showed respondents were not enthusiastic about just the one certificate.

Results on one other item, #22, may shed more light on the "numbers" domain. This item asked respondents to react to the idea of disbanding certification in the areas of educable mental retardation, learning disabilities, and emotional disturbance in favor of "some more general certification in special education." Results showed that the group as a whole were *noncommitted* on the "likelihood" and "desirability" of the event (respective means of 4.21 and 4.46), with extremely great variability (SD = 2.17) on "desirability." College faculty in special education and state directors of special education considered the collapse of these three certification categories into one category as *most likely*. The most extreme negative results were found among the regular teachers. They considered the change to be both quite *unlikely* and *undesirable*. State directors of certification, along with college faculty in special education and state directors of special education, on the other hand, led in considering this kind of collapsing of categories to be *desirable*. The mean values on "desirability" for the latter three groups were 5.09, 5.36, and 5.30 respectively.

Evidence of Competencies. The problems of measuring or attesting to competencies of personnel as the presumed bases for certification are manifold; they impinge on technical and political issues, views of the nature of education, and even the philosophy of making decisions affecting human beings. Several questions tapped this domain lightly.

One of the approaches to certification that appears to have expanding appeal comes under the rubric of Performanced Based Teacher Education (PBTE). Item #5 stated, "Many states will mandate application of PBTE systems in certification of teachers." Results produced a mean of 4.92 on "likelihood" (*somewhat likely*) and 5.29 (*desirable*) on the "desirability" dimension, with great variability in the responses on "desirability." Students, state directors of special education, and state directors of teacher certification ranked highest in mean "desirability" ratings; regular

teachers were lowest in the mean ranking on "desirability." It may be significant that each of the subgroups of college personnel and state directors of teacher certification gave the highest mean ratings on the "likelihood" of PBTE applications in certification procedures.

An extended question on PBTE took the form of a hypothetical case in which a substantial number of regular teachers claimed special education certificates on the basis of competencies they were willing to demonstrate. The query was:

> If you were in control of the situation and could name twenty people to be responsible for checking out their individual competency claims, how many of them would be (your total should be 20):

65.	Special education teachers?	(5.9)
	College professors of special education?	(4.6)
	Parents and community representatives?	(2.6)
	Local special education administrators?	(3.5)
	State department of education staff?	(2.3)
	Others	(1.1)

Means for the total group are given in parentheses. All the subgroups followed the general pattern in mean responses, except that they tended to inflate their relative power, that is, each subgroup considered itself more competent than others to judge special education competencies in such an hypothetical situation.

A related item, #21, concerned the extent to which future certification standards might allow individuality in patterns of preparation or competencies and still permit certification. One of the presumed features of PBTE approaches is that competencies, and not a particular process of preparation or development through which the competencies are established, are the primary criterion. The item is complicated and perhaps weakened by also including in it the concept of varied competencies. The results showed *noncommitted* but *desirable* ratings of response.

Some long-standing certification issues. Several items dealing with long-standing issues in certification for special education were included in the survey. The first, item #18, suggested that "Special education certification in most areas will require prior certification for 'regular' teaching." This requirement received ratings of *noncommitted* and *somewhat desirable*. Among subgroups, general school administrators ranked highest in considering regular certification a *desirable* prerequisite while college faculty in speech and hearing and undergraduate students in special education were most negative on the "desirability" dimension.

Another set of items checked on the "control" issue. Item #16 suggested that the influence of colleges in certification procedures will decline. The suggestion received *somewhat unlikely* and *somewhat undesirable* mean group responses. "Leaders" in special education, however, were relatively more willing (a rating of *desirable*) than any other group to consider the suggestion that college influence on certification should decline.

A more detailed exploration of the control issue was introduced in items #66 and #75 of the survey.

Mean values obtained for the total group of respondents are given in parentheses. In rank order, the groups given the highest numbers of positions on the hypothetical board were teachers, professors, local school administrators, state school officials, and parents of exceptional children. The differences in response to this query among the subgroups were not remarkable in any way except for a general tendency for each subgroup to inflate its own role. A board structured in accordance with results of this survey, it might be commented, would do little to dissuade people from the view that certification boards tend to be self-serving bodies.

If you were authorized to appoint a twenty-member board in your state which had the power to certify all special education personnel, who would you appoint? How many would be (be sure your total is 20):

66.	Paraprofessionals?	(0.9)
67.	Teachers?	(4.6)
68.	Parents of Exceptional Children?	(2.2)
69.	Children or Students (K to 12)?	(0.7)
70.	College Professors?	(3.7)
71.	Local School Administrators?	(2.7)
72.	State School Officials?	(2.3)
73.	General Community Leaders?	(1.2)
74.	College Students in Special Education?	(1.0)
75.	Others (Specify)?	(0.7)

Item #50 set forth the proposition that procedures for the interstate transfer of special teacher credentials might be simplified and regularized in the next decade. The proposition received *likely* and *highly desirable* mean ratings. It may be encouraging to note that of all the subgroups the state directors of teacher certification had the highest mean response on "likelihood." All subgroups were in accord on the very high desirability of achieving reciprocity in certification among the states.

Item #20 suggested that periodic renewal of special education certificates should be required of all special education personnel. Although the total group mean ratings were at *likely* and *highly desirable* levels, great variability was found among individual responses on the "likelihood" prediction. The two most optimistic subgroups on the "likelihood" dimension were speech and hearing therapists and state directors of teacher certification. All the subgroups tended to see periodic renewal of certificates as *desirable* but teacher subgroups, those who actually face the risks in limited-period certification, tended to rate "desirability" relatively lower than others.

Accreditation

Criticism has been mounting against current accreditation procedures. National and regional accreditation of institutions and training programs has been dominated by voluntary structures, mainly those created and operated by institutions of higher education, but with significant participation by professional and scientific associations. At state levels, accreditation in teacher education is often a function of the same structure that controls the certification of teachers and, indeed, in recent years there has been a trend to link the two procedures, that is, to certify automatically the trainees from accredited programs.

Some voices have argued that the accreditation process should be reduced to something like a "better business" list, that is, to be oriented simply to assuring the public that a program exists in reasonable accord with catalogues or other public announcements and the institution offering the program is financially viable and responsible. Others prefer accreditation by the government, on the grounds that the procedure is public in nature and too important to be left to voluntary and possibly self-serving bodies. Several items were included in the DELPHI survey to ascertain the respondents' views in these domains in relation to special education.

Item #12 requested response to the idea that a trend toward PBTE certification of teachers would largely eliminate the need for the accreditation of training programs. The implied argument was that as teachers claimed and were examined for competencies, the examination would provide an almost automatic testament to the training programs that were performing creditably. The mean responses for the total group were at the *unlikely* and *undesirable* levels, but with great variability among the responses on the "desirability" dimension. All the subgroups were highly negative on both dimensions of this probe but the state directors of teacher certification were the most negative on both "likelihood" and "desirability." On the basis of this small bit of evidence, it would seem that there is

little readiness to diminish the accreditation function.

A suggestion, item #14, that the U.S. Office of Education or some other federal agency take over the accreditation of training programs in special education resulted in a *somewhat unlikely* mean (3.42) on "likelihood" and an *undesirable* expression on "desirability." The variation of responses was very great on both dimensions, with teachers in special education particularly negative on the "desirability" of federal intervention in accreditation.

The notion of accrediting colleges simply on the basis of "financial stability and general accuracy of catalogues" (item #11) was sharply rejected on both "likelihood" (mean 2.59) and "desirability" (mean 1.87). If this approach is a good one, it is either unknown or not persuasive to the participants in this survey.

A sharply contrasting item, #13, asserted that voluntary regional and national accrediting bodies might extend their functions in the next decade so that "programs in specific field such as special education may be scrutinized more closely." In the past, such regional and national accreditation had tended to deal only in very large programatic areas as, for example, in subsuming special education usually under elementary and secondary education and not making a distinct assessment of it. Responses were at the *somewhat likely* and *desirable* levels with subgroup differences minimal.

Agreement appears to be wide that in the past, at least, there has been some tendency for accreditation processes to emphasize single patterns of teacher preparation within institutions and to insist on some program standards everywhere. Item #15 proposed that "in order to encourage innovation, standards for accreditation in. . .teacher education will be made much more flexible in the next decade." Respondents were *noncommitted* on the "likelihood" of the trend although they considered it *desirable*. Both college administrators and leaders in special education scored particularly high in mean desirability on this item. For whatever reason, "desirability" scores showed high variability.

The total pattern of responses on the items relating to accreditation indicates a rather strong orientation to continued reliance on voluntary accreditation at national and regional levels and, even, a desire to strengthen the capacities of the accreditation agencies so that they might study specialized programs with greater ease. Along with this rather positive central tendency, however, there is evidence of a very wide divergence among individuals over the suitable form and uses of accreditation activities. The topic surely deserves intensive study, all the more so since it appears that

the basic structuring of current accreditation activities affecting all of teacher education is in flux.

General Future Predictions

Work in the field of professional standards goes forward in a context of larger forces and events. Indeed, it can be argued that developments in professional standards are inevitable because of the trends and forces in such domains as population, economy, distribution of general political and economic power, and unemployment. The DELPHI survey reported here did not probe into these areas but it did include several general items which are influenced by them.

Item #27 sought predictions and attitudes on the continued use of court actions to goad specialized school program developments. The item was worded as follows:

> Court actions will continue to create forces which require major redesign of special education programs.

Respondents rated such actions as *likely* (mean 5.48) over the next decade although they considered them to be only *somewhat desirable* (mean 4.86). The variability on "desirability" was great. State and local directors of special education were the most definite subgroup in predicting the continued importance of court actions.

It is interesting that the court actions of recent years rest upon basic notions of individual human rights, as expressed in the equal protection clause of the Fourteenth Amendment to the Federal Constitution, rather than upon economic justifications or claims for societal advantages. Possibly, as some persons believe, the recent court decisions reflect a fundamental turn in our social values, a readiness, in fact as well as proverbially, to base ". . .the future development of special education programs. . .more upon philosophical justifications and less on claims for economic and social benefits" (item #26). The survey respondents produced noncommital mean values of 3.50 for the "likelihood" of such a change and 4.28 for its "desirability." Not surprisingly, variability on the "desirability" dimension was very great. As a group, general school administrators were more optimistic than others about the "likelihood" of such a change and "leaders" in special education led in viewing the change as *desirable*. For whatever reason, speech and hearing therapists tended to consider the matter both less likely and less desirable than any other subgroup.

One clear result of the recent court actions is the decline in the populations of handicapped children in residential institutions (special

schools, mental hospitals, etc.) and the increase of the populations in community-based programs for profoundly handicapped children. Item #46 asked for views on the continuation of this trend. The results indicated a belief that the trend is both *likely* to continue and *desirable*. State directors of special education produced the highest ratings among all subgroups on both "likelihood" and "desirability" while the "leaders" in special education ranked second on the "desirability" dimension.

A closely linked item, #40, relating to profoundly handicapped children in local schools, read as follows:

> Local school districts will take on responsibilities for conducting educational programs for even the most profoundly handicapped children of the community.

The "likelihood" rating on the above item was 4.67 (*somewhat likely*) and the "desirability" rating was 5.29 (*desirable*). Variability on the "desirability" dimension was great (SD = 1.73), however. State directors of special education led the way on "desirability" while regular teachers, as a group, ranked lowest as compared to all other subgroups. It may be of particular interest that general school administrators gave a *desirable* rating (mean 5.05) on this item, which is below the general mean.

One way in which local educational agencies might serve profoundly handicapped children is by turning increasingly to the referral of such children to private schools. Item #33 questioned this trend. The results were *noncommitted* on "likelihood" and *somewhat undesirable* on "desirability," with great variability on the latter. State directors of special education gave a particularly low rating on the "desirability" of the trend, undergraduate special education students gave higher ratings than any other subgroup on both its "likelihood" and "desirability."

Mildly Handicapped Children

Several items of the survey related to ways in which special education might address the educational needs of mildly handicapped children. The first was item #1.

> Installation in regular schools of broad systems for individualizing instruction will make it possible for many children with mild and moderate degrees of handicaps to remain in regular classes and thus to remove them from the field of special education.

For the group as a whole the means were 4.99 (the top limit of *somewhat likely*) and 6.13 (*highly desirable*) on "likelihood" and "desirability," respectively. State directors of special education led all the subgroups in

rating this trend as both *likely* and *highly desirable*. The results on this item are intriguing because of the rather strong "desirability" rating despite two elements in the item: the suggestion of the broad installation of individualized educational systems, and the removal of many mildly and moderately handicapped children from the field of special education. Taken at face value, these results could be interpreted to suggest that many people are ready to define special education in a way that will confine it to severely or profoundly handicapped children. It seems likely, however, that many respondents have in mind something more complex than such a narrow definition. The results certainly invite further inquiry.

Item #23 may shed some light on the subject. It suggested that many "former teachers of the handicapped will be retrained and employed in roles which are consultative and supportive to regular teachers, rather than in special classes and special agencies." Results showed this eventuality to be *somewhat likely* but *desirable*. According to subgroup results, the leading advocates of this trend are special education teachers, state and local directors of special education, and college faculty in special education. "Leaders" in special education produced the largest discrepancy between "likelihood" and "desirability" ratings, in favor of the latter. The total group of respondents produced very high variability on the "desirability" of this notion, indicating that discussions on the subject could be lively and useful.

Item #39 suggested that mildly and moderately handicapped preschool children will tend to be enrolled in regular school and day-care programs "without any special categorization or special placement." The results suggest that such enrollment is both *likely* and *desirable*. The state directors of special education led the subgroups on both dimensions while the "leaders" in special education scored the largest discrepancy between "likelihood" and "desirability." These findings indicate a need for strong efforts in this domain if a "desirable" state of affairs is to be achieved.

Several items checked on possible changes in the roles of specialists, other than special education teachers, in the direction of indirectly influencing the education of exceptional children through support and consultative activities with regular teachers. Item #37 read as follows:

> Many more speech pathologists will perform as trainers of teachers, thus working more indirectly in influencing the school environment rather than as clinical specialists.

Results on this possible trend were only *noncommitted* and *somewhat desirable*, with great variability on the latter. Neither speech and hearing therapists nor professors in that field gave particularly unusual responses

as compared to other subgroups. Local special education administrators and "leaders" in special education ranked highest on the "desirability" of this trend.

> A roughly comparable item, #43, related to school psychologists.
>
> School psychologists will do much less testing and more consulting and/or training in schools.

The total group rated the statement as *somewhat likely* and *desirable* although with great variability on "desirability." Special education teachers led the way in rating the "desirability" of this trend, but they also produced the largest discrepancy between what they consider likely and desirable, with "desirability" the higher dimension.

The Gifted

If there continues what appears to be a tendency to provide increasing amounts of support and consultation to regular teachers who have handicapped children in their classrooms, an important question arises about gifted children. Will the resource teachers, consultant teachers, psychologists, and other support personnel who serve the handicapped, consider the gifted to be a major area of their concern also? Item #35 asked that question and received a somewhat contradictory response. Specifically, the means were 4.45 (*noncommitted*) and 5.78 (*desirable*). Again, variability was great on the "desirability" dimension. The three subgroups that rated this item highest on "desirability" were the regular and special teachers and the therapists who work directly with children. College faculty in special education saw the biggest challenge in this domain, as compared with other subgroups, if such a conclusion is justified by their very large discrepancy between "likelihood" and "desirability."

One of the major stumbling blocks in relating to the gifted, perhaps, is the relative lack of special funding by state and federal agencies in this area. Item #34 asked for reactions to the subject, using the following language:

> Specialized school programs for the gifted will become at least as well supported financially as programs for the handicapped.

The results were *noncommitted* (mean 3.91) on "likelihood," but the "desirability" rating was at the higher level of *desirable* (mean 5.68). Variability among individuals was high on both "likelihood" and "desirability." "Leaders" in special education were the least optimistic about strong financial supports for the gifted. Obviously, deliberations on the

gifted are much needed to achieve clarification of the means by which the commitment to them as a group of exceptional children can be realized. The results obtained on the subject of gifted children in this survey, although not extensive, suggest an especially cloudy but challenging state of affairs.

Parents of Exceptional Children

A small set of items dealt with issues and trends relating to the role of parents in making educational decisions for their children. The first item, #45, took this form:

> Special education teachers and other related school personnel will spend increasing amounts of time consulting and planning with parents of exceptional children.

The resulting ratings suggested that it is likely and *highly desirable* that special educators will spend increasing time enjoining parents in educational planning. All subgroups gave very high ratings on the "desirability" dimension of this item and lower ratings on "likelihood." Quite clearly, this area is a challenge for teachers and other involved educators.

The next item in this set, #10, suggested that "major changes in programs for exceptional children will be undertaken only after negotiation. . .with parents (following). . .due process procedures." Respondents considered this degree of formal parental involvement to be *somewhat likely* and *desirable* with great variability on both dimensions. State directors of special education, graduate students, and special education "leaders" were the uppermost groups in considering negotiations and due process procedures involving parents as *desirable*.

Another item in this set, #42, asked respondents to express their views on voucher systems in which parents would control the choice of educational programs for their children. The results were *noncommitted* on "likelihood" and *noncommitted* on "desirability." The mean on "desirability" was 4.01 with very great variability (SD = 1.90). State directors of special education and teachers in special education gave extremely low ratings on both dimensions of the vouchers issue.

An idea of mounting interest, which has been advocated by Prof. James Gallagher,[6] is that special educators should write contracts with parents on the goals for individual children who are given special education placements. Item #32 sought views on the application of this idea over the next decade. The respondents considered the development to be both *likely* and *desirable*, with great variability on the "desirability"

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6 Gallagher, J. J. The special education contract for mildly handicapped children. Exceptional Children, 1972, 38, 527-535.

dimension. Local special education administrators and special education teachers ranked the contract procedure as most likely to develop.

Early vs Late Adopters

One tentative aspect in the analysis of the survey of Round I is the five-way self-classification of all respondents on an early-to-late adoption scale (items #95-#99). The items, scale descriptors, and percentages of respondents in the several categories follow:

> As compared with your colleagues or persons in your kind of work, how do you rate yourself, as an "early" or "late" adopter of new training procedures? Please check the one of the following categories which you think fits you best.
>
> As new ideas for training come along, I tend to be:

	Percentage
A late adopter	1.6
A "wait and see" type	7.0
About average	33.8
A rather strong advocate for early change	47.1
A very early adopter	8.1
Not given	2.5

Table 1 shows the percentages of respondents in each subgroup by self-classification. It is notable that special education "leaders" and teachers, and state directors of special education tended, more than other subgroups, to classify themselves as *very early adopters.* Speech therapists, undergraduate special education students, and state directors of teacher certification more often saw themselves as *wait and see* or *late adopter* types.

The results summarized in Table 2 show that although 45.5 percent of all respondents came from communities with populations below 50,000, 58.8 percent of the *late adopters* came from such communities. While 24 percent of the total respondent group came from very large communities, over 300,000, only 5.9 percent of the *late adopters* came from such communities. These and other data suggest an intriguing and perhaps significant relation between early-late adoption and size of community. Possibly, the great ferment in the big cities over special class placement issues is reflected in the relatively more open attitude toward change expressed by the big city respondents in this survey.

Table 1

Adopter Code by Group Comparison,

Cell Percentages

Group	n	Adopter Code: Very Early	Early	Average	"Wait & See"	Late	Not Given
1. St. Dir. – S.E.	44	13.6	40.9	34.1	9.1	0.0	2.3
2. St. Dir. T. Cert.	35	2.9	45.7	37.1	2.9	8.6	2.9
3. Coll. Adm.	158	5.7	48.1	35.4	7.6	1.3	1.9
4. Coll. Fac. – S&H	34	5.9	41.2	41.2	5.9	0.0	5.9
5. Coll. Fac. – S.E.	155	9.7	52.9	27.1	6.5	0.6	3.2
6. Coll. Stud. – Grd.	120	1.7	49.2	35.8	8.3	3.3	1.7
7. Coll. Stud. – Und.	48	8.3	41.7	27.1	10.4	2.1	10.4
8. Sch. Adm. – Gen.	104	3.8	41.3	45.2	6.7	0.0	2.9
9. Sch. Adm. – S.E.	140	11.4	55.0	27.1	5.7	0.0	0.7
10. Teacher – S.E.	93	14.0	43.0	30.1	8.6	2.2	2.2
11. Teacher – Reg.	79	10.1	36.7	44.3	3.8	3.8	1.3
12. S&H Ther.	20	5.0	35.0	40.0	15.0	5.0	0.0
13. Leaders	32	15.6	59.4	21.9	3.1	0.0	0.0
Total	1062	8.1	47.1	33.8	7.0	1.6	2.5

Table 2

Adopter Code by Community Size

Cell Percentages

Adopter	n	Community Size: Below 50,000 (n = 475, % = 44.7)	Between 50,000 and 300,000 (n = 316, % = 29.8)	Above 300,000 (n = 220, % = 20.7)	Not Given (n = 51, % = 4.8)
Very Early	86	38.4	32.6	25.6	3.5
Early	500	44.0	31.0	22.4	2.6
Average	359	47.9	27.6	19.2	5.3
"Wait and See"	73	48.6	31.1	18.9	1.4
Late	17	58.8	35.3	5.9	0.0
Total	1036				

As indicated in the introductory section of this report, no validity data on the self-rated adopter scale have been assembled. Thus, the results reported here are in a most tentative form. Even so, when the data for all item responses are summarized separately for the adopter groups, a remarkably consistent pattern of results is observed. Apparently, these self-ratings are predictive of views on a wide range of issues. Some of the findings are expressed below in the form of characterizations of the "wait and see" and late adopters. In a relative sense, that is, as compared with early adopters, they tend to:

... Oppose the use of instructional technologies in teacher education.

... Oppose the use of student-negotiated study proecdures in college.

... Oppose PBTE.

... Oppose the application of behavioristic principles.

... Oppose the use of performance criteria in allocating rewards to teachers.

... Oppose the involvement of parents in school decisions on children.

... Be protective of college influences on certification.

... Favor requiring regular certificates as prerequisites for special education certification.

... Oppose decategorization.

... Favor an increase in numbers of kinds of special education certificates.

... Oppose contracts covering goals for exceptional children in special placements.

... Oppose local school provisions for the profoundly handicapped.

... Allot fewer resources to research and more to training.

... Oppose using special education training resources to serve regular teachers.

... Allot more resources for continuing education to the colleges.

It must be repeated that these findings are preliminary. However, it does appear, perhaps not surprisingly, that a rather broad clustering of conservative and liberal attitudes is associated with the two extremes of the adopter scale and that position on the scale is somewhat associated with size of community.

Summary of Observations on Round I

It may be useful, as a conclusion to this overview of Round I results on the DELPHI survey, to look selectively across all items and to summarize the findings under the following four classifications:

Items showing highest likelihood

Items showing highest desirability.

Items showing highest desirability-likelihood discrepancy (D>L).

Items showing highest likelihood-desirability discrepancy (L>D).

High Likelihood Items. The fifteen items[7] showing the highest likelihood ratings are listed and characterized briefly in Table 3. This table indicates straightforward predictions of what is very likely to happen in special education within the limits specified by the items included in the survey. The likelihood rank, among all 56 relevant items, is given in the first column. The item number is shown in the next column. The mean likelihood ($\overline{X}_L$) is listed in the third column, followed by a brief note on the content of the item. (Readers may refer to Appendix A to review the exact wording of each item.)

High Desirability Items. Items receiving the highest desirability ratings are shown in Table 4. The correlation between "likelihood" and "desirability" is +.727, $p < 0.01$; thus, there is a considerable repetition of

[7] Out of the 56 items cast in the likelihood-desirability rating format. Forty-four additional items were cast in a different form (see items #57-100, Appendix A).

items included in Table 3.[8] These items represent what respondents would *like* to see happen in special education over the next decade. It is a very practical list in the sense that one can easily identify decision points at

Table 3
Ranked High Likelihood Items
All Respondents: Round I

Rank	Item #	$\overline{X}_L$	Brief Characterization of Event or Trend
1	7*	5.89	Continuing education activities will increase.
2	38*	5.56	Hearing handicapped will remain a special teaching area.
3	27*	5.48	Court actions will continue to good changes.
4.5	41*	5.40	Visually handicapped will remain a special teaching area.
4.5	55*	5.40	More paraprofessionals will be used in special education.
6	56	5.31	Secondary and vocational schools will expand special programs.
7	6	5.29	Applied behavior analysis and similar procedures are "in".
8	47	5.28	Demands for special education administrators will increase.
9	45	5.26	Special teachers will involve parents more.
10	20	5.25	Teaching certificates will require periodic renewal.
11.5	39	5.17	Preschools will tend not to categorize or separate exceptional children.
11.5	46	5.17	Residential institutions will continue to empty into the local schools.
13	32	5.04	Special educators will contract with parents on goals for children.
14.5	25	5.03	Colleges will improve their sharing and cooperative activities.
14.5	50	5.03	Reciprocity among states in certification will progress.

*These same five items were also the highest "likelihood" items on Round II of the survey, although their rank ordering was slightly different.

[8] Eight items appear on both tables: #7, #20, #25, #45, #46, #50, #55, and #56.

which directions can be set. On the other hand, the items say little or nothing of the technical or political problems which may be involved. In this sense, they are uncomplicated "wishes."

Table 4

Ranked High Desirability Items

All Respondents: Round I

Rank	Item #	$\bar{X}_D$	Brief Characterization of Events or Trends
1	7*	6.70	Continuing education activities will increase.
2	25*	6.46	Colleges will improve their sharing and cooperative activities.
3	50*	6.39	Reciprocity among states in certification will progress.
4	45*	6.36	Special teachers will involve parents more.
5	56*	6.27	Secondary and vocational schools will expand special programs.
6	1	6.13	Mildly handicapped will go to individualized regular classes.
7	2	6.10	Professors will instruct in field situations.
8	29	6.03	College consortiums will produce broader plans.
9	20	6.02	Teaching certificates will require periodic renewal.
10.5	13	5.83	Accreditation will attend to special fields.
10.5	46	5.83	Residential institutions will continue to empty to local schools.
12	53	5.80	Criterion-based testing will surpass norm-referenced approaches.
13	35	5.78	Special education "leaders" will cover the gifted area.
14	55	5.77	More paraprofessionals will be used in special education.
15	43	5.70	Accreditation standards will be more flexible.

*The same five items showed highest "desirability" ratings in Round II of the survey.

Table 5 ranks according to the differences of the means the items that showed the largest desirability-likelihood discrepancies. In effect, these items specify domains in which changes are not so likely to concur with the respondents' preferences. Table 5, more than any other so far presented, indicates an agenda for action. For example, the first item suggests that since the "desirability" of special financial aid for the gifted far surpasses its "likelihood" of occurrence, the area can be viewed as one of high challenge to the profession.

Table 5

Item Desirability-Likelihood Discrepancies

All Respondents: Round I

Rank	Item #	$\overline{X}_D - \overline{X}_L$	Brief Characterization of Events or Trends
1	34*	1.77	Financial supports for gifted will equalize with handicapped.
2	8*	1.69	Teacher rewards will depend upon performance, not time or credits.
3	2	1.47	Professors will instruct in field situations.
4	25*	1.43	Colleges will improve their sharing and cooperative activities.
5	50*	1.36	Reciprocity among states in certification will progress.
6	4	1.35	College students will negotiate individualized programs.
7	35*	1.33	Special education "leaders" will cover the gifted area.
8	9	1.23	Individual teachers will judge their own qualifications.
9	21	1.18	Certification standards will allow individualized patterns.
10	43	1.15	Accreditation standards will be more flexible.
11	1	1.14	Mildly handicapped will go to individualized regular classes.
12	45	1.10	Special teachers will involve parents more.
13	29	1.07	College consortiums will produce broader plans.
14	13	0.98	Accreditation will attend to special fields.
15.5	15	0.96	Accreditation standards will be more flexible.
15.5	56	0.96	Secondary and vocational schools will expand special programs.

*These five items showed highest D>L discrepancies on Round II of the survey.

Table 6 presents the obverse picture of Table 5. In this case items showing higher "likelihood" than "desirability" are listed. For the action-minded, this Table proposes an agenda for negative action. For example, results on item #48 (ranked first in the Table) suggest that it is much more likely than desirable that teachers' associations or unions will control inservice education activities. Thus, assuming one agrees with the notion or is willing to act on the data provided by the survey respondents, one could undertake negative action in these domains with pretty good assurance of wide support.

Table 6

Item Likelihood-Desirability Discrepancies

All Respondents: Round I

Rank	Item #	$\overline{X}_L - \overline{X}_D$	Brief Characterization of Events or Trends
1	48*	1.04	Teacher associations will control inservice education.
2	14*	0.82	USOE will accredit training programs.
3	11*	0.72	Accreditation will relate only to finances and honesty.
4	27*	0.62	Court actions will goad special education changes.
5.5	44*	0.31	Speech therapy will travel a separate preparation track.
5.5	33	0.31	Schools will refer profoundly handicapped to private schools.
7	6	0.19	Behavioristic principles will be applied increasingly.
8	38	0.10	Hearing handicapped will remain a distinct teaching area.
9	17	0.09	Graduate teacher education will supplant undergraduate programs.
10	16	0.05	College influences in certification will decline.
11	49	0.03	Regular teachers will train on-the-job for special roles.
12	12	0.02	PBTE certification will lessen needs for accreditation.
13	36	0.01	College special education departments will be dissolved.

*These five items showed the largest L>D discrepancies on Round II of the survey.

Round II Survey

Round II of the DELPHI survey was conducted in the very late Spring of 1973, by sending the survey form, as given in Appendix A, to the 1142 persons who had responded in Round I. Table 7 summarizes the basic data on the nature of the Round II group.

The return rate on Round II was low, 31 percent. A potential problem is involved in comparing results of Round II with earlier results on Round I, in that it may be that a biased group of respondents happened to cooperate in the second round. For example, it may have happened that a very high proportion of college people or big city people responded on Round II. By comparing response means for the total group of Round I respondents with the means for the total group of Round II respondents, however, it became apparent that the 358 second-round respondents varied little from the Round I responses. In other words, it seems reasonable to assume that the 358 second-round respondents are representative of the larger group. However, because the response rate was relatively low on Round II and because we cannot be fully assured that the Round II respondents were an unbiased group, the summary presented below covers only the distinctive findings. In comparing Round I and Round II responses, only the data for the 358 persons who responded on both rounds were used.

Table 7

Characteristics of Round II Respondents

Group	Round I Returned	Round II Returned	Percent Returned Round II
State Directors of Special Education	44	24	55.0
State Directors of Teacher Certification	36	21	58.0
College Administrators	127	36	21.0
College Faculty–Speech and Hearing	36	13	36.0
College Faculty–Special Education	127	64	37.0
College Students in Special Education	178	45	25.0
School Administrators–General	113	22	19.0
Local Directors of Special Education	151	61	40.0
Special Education Teachers	100	31	31.0
Regular Teachers	84	15	18.0
Speech & Hearing Therapists	21	6	29.0
Leaders in Special Education	33	20	61.0
Totals	1142	358	31.0

Convergence on Likelihood-Desirability Items

Quite regularly in the use of DELPHI procedures it is observed that when second-round respondents are given the summary results from Round I, they tend to show a convergence trend, that is, the dispersion of responses on individual items tends to be reduced. In this survey, a convergence tendency shows on the "desirability" and "likelihood" items when the standard deviations on the seven-point scales provided for each item are smaller on Round II than Round I.

Such a statistically significant (.01) convergence trend was observed on all 56 of the "likelihood" items and on 55 of the 56 "desirability" items. The single exception was item #25 (establishment of systems through which colleges share their training ideas and materials). It showed such a uniformly high rating on Round I that convergence on Round II was virtually impossible. Very clearly, then, one result of the iterative process with intervening feedback in the present survey is the tendency toward concensus. However, as is noted below, even with convergence very significant differences of opinion are found within the respondent group on a substantial number of topics.

The items showing great variability (SDs larger than 1.5) on Round II, despite the convergence trends, are as follows:

"Likelihood" Items:	None	
"Desirability" Items:	17	Graduate teacher education will supplant undergraduate programs.
	18	Regular teacher certification will be prerequisite for special education
	22	Certification in EMR, LD, and ED will be combined into one.
	33	Schools will refer profoundly handicapped to private schools.
	40	Local schools will serve the profoundly handicapped.
	42	Voucher systems will give parents choices of schools.

The listed items would appear to be those arousing the most controversy among respondents on Round II and therefore in need of thorough discussion as part of the PS&G project and in other settings. Many additional items showed substantial variation (SDs between 1.0 and 1.5) on

Round II. They are listed here by item number (readers can refer to Appendix A for the content of the items).

Items Showing SDs Between 1.0 and 1.5 on Round II

"Likelihood:" 1, 4, 5, 8, 9, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26. 28, 29, 30, 33, 34, 35, 36, 37, 40, 42, 46, 48, 50.

"Desirability:" 1, 3, 4, 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 19, 21, 23, 24, 26, 27, 28, 30, 31, 32, 34, 35, 36, 37, 38, 39, 41, 43, 44, 46, 47, 48, 49, 51, 52, 53, 54, 55.

Mean Changes on Likelihood-Desirability Items

Round II results were also examined for changes in the respondents' central tendencies. Specifically, significance tests were conducted for differences of means on all 56 items on both "likelihood" and "desirability" between Rounds I and II–a total of 112 tests. Four "likelihood" items and 14 "desirability" items demonstrated significant mean differences between rounds at the .01 level.

"Likelihood" items showing significantly increased "likelihood" on Round II

#7 Continuing education activities will increase.

"Likelihood" items showing significantly decreased "likelihood" on Round II

#11 Accreditation will relate only to finances and honesty.

#12 PBTE certification will lessen needs for accreditation.

#14 USOE will accredit training programs.

"Desirability" items showing significantly increased "desirability" on Round II

#10 Negotiations with parents, observing due process, will be regularized.

#17 Graduate teacher education will supplant undergraduate programs.

#18 Regular teacher certification will be prerequisite for special education.

#26 Philosophical justifications for special education will supercede economic claims.

#28 Manpower data will be used to control admissions to special teacher education.

#30 More recruitment of professionals from ranks of successful paraprofessionals.

#38 Hearing handicapped will remain a special teaching area.

#39 Preschools will tend not to categorize or separate exceptional children.

#44 Speech therapy will persist on a separate track.

#50 Reciprocity among states in certification will progress.

#52 "Core" elements in teacher education will replace some categorical instruction.

"Desirability" items showing significantly decreased "desirability" on Round II.

#11 Accreditation will relate only to finances and honesty.

#14 USOE will accredit training programs.

#48 Inservice education will be controlled by teacher associations or unions.

In general, the listed items were among those on which the opinions of respondents tended to be rather definite on Round I and even more definite on Round II.

Round II "Fill In" Items

Items #57-#60, the numbers of different kinds of teaching certificates which will be issued in special education, all showed lower means on Round II than on Round I, but the changes were not statistically significant. All four items had significantly lower variances. The means for the number of different kinds of special education certificates likely (and desired) to be issued by state departments of education for the total group on Round II were as follows:

	1978	1983
Number of kinds of certificates likely in:	6.5	5.8
Number of kinds of certificates if I had my way:	5.1	4.9

The consistent downward trend from 1973 to 1978 and then to 1983 is noteworthy.

Items #61-#64 dealing with the number of EMR classes there "will be" in 1978 and 1983 showed no significant mean differences from Round I to Round II. A few individuals entered highly extreme values which, unfortunately, made interpretation of the Round II results essentially impossible.

The distributions shown on Round I item #65 responses (the hypothetical board to test teachers on their competency claims for specialized certification) were essentially unchanged on Round II. On a 20-member board, Round II respondents would give 6.1 positions to special education teachers, 5.0 to college teachers, 3.7 to local special education administrators, 2.9 to parents and community representatives, 2.5 to state department staff, and 2.6 to "others."

On a more general hypothetical 20-member board to control the total certification process in "your" state, Round II respondents showed an inconsistent trend on convergence as well as significant mean decreases in the numbers of state department representatives and college students they would include. The mean numbers of positions allocated to the various categories and the comparative variances were as follows:

	Round II	Variance Comparison with Round I
Teachers	5.0	Significant decrease
College professors	4.0	Significant decrease
Local Administrators	2.9	Change not significant
Parents	2.6	Significant increase
State dept. officials	2.3	Significant decrease
Community leaders	1.6	Change not significant
Children K-12	1.5	Significant increase
College students	1.5	Significant decrease
Paraprofessionals	1.5	Significant increase

No significant shifts occurred in the means relating to the allocations of college resources to research, teaching, policy development, and direct service, but significant convergence was found on all four variables. The proposed percentage allocations of total college special education resources to the various functions were as follows:

	Percent
Research and Development	18.9
Training	41.2
Policy Development	10.9
Direct Service	28.9

When respondents were asked to break down the training resources (items #80-#85) according to how they should be allocated for the preparation of paraprofessionals, teachers, administrators, and so forth, there were no noticeable shifts. The mean percentages on these items on Round II follow:

	Percent
Paraprofessionals	11.1
Special education teachers	36.2
Special education administrators	10.8
Regular teachers	21.6
Research specialists	10.0
College teachers of teachers	11.3

Summary and Conclusions

This DELPHI survey, undertaken as a part of the CEC project on professional standards and guidelines, was intended to provide input to the project staff, feedback to the respondents, and information to all interested persons in the field on trends and issues in the field of special education. The query domains included the traditional professional standard topics--recruitment, selection, preparation, certification, accreditation, professional performance--plus several general areas of future predictions. To avoid orientation to simple contemporaneous concensus, items were worded as future events for respondents to rate for "likelihood" and "desirability." Two rounds of the survey were completed in 1973, as reported above.

A great many detailed results were obtained on Rounds I and II of the survey and they are given in earlier sections of the report. Only a few of the more general observations are discussed here.

Rounds I and II of this survey were conducted in the winter and spring of 1973 at a time when the supply of regular teachers in preparation for exceeded the demand. Even in special education, where demand has held up relatively higher, supply appeared to exceed demand, at least in some localities. The results of the survey pertaining to manpower issues, including recruitment and selection, need to be understood in that context. Obviously, there is much planning to be done in the manpower domain, facing up to such issues as, for example, controls in admissions to specialized preparation as a function of manpower studies, recuritment of more teachers from the ranks of successful paraprofessionals, and the pros and cons of personnel recruitment of high-school students to specific fields. Perhaps the clearest manpower planning challenge appearing in the data of this survey goes to the colleges and universities; they are expected to create new and better mechanisms for inter-institutional coordination across state and regional areas to create a balance and systematic means of recruiting, selecting, and preparing special teachers in accordance with realistic demand/need data. How such coordination might be achieved is not made clear in this study, but surely the area is one in which principles and examples of good practice need to be made visible, and in which more action should be urged. The necessity for such action derives from the general need to conserve resources but also from the difficult challenge posed by the right to education principle in the area.

The results of the present survey issue several more challenges to the colleges and universities and others who have a part in the preparation of special educators. Among them are (a) to be clear and public about the objectives of preparation programs; (b) to be more oriented to performance or competency criteria rather than to mere process in assessment procedures; (c) to develop improved and extended practicum or field experiences; (d) to give more attention to the preparation of regular teachers and other nonspecialists in special education concepts and skills.

Some of the long-standing issues relating to preparation were shown by this survey to be still very much unsettled, to wit: (a) Should minimum preparation for special teaching be at the undergraduate or graduate level? (b) Should regular teacher education and certification be the prerequisites for special education preparation? (c) Should categories for the preparation and certification to teach the mildly handicapped be combined into a single more inclusive preparation and certification sequence? Each of these issues will need attention as the PS&G project proceeds.

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The survey reveals a great deal of ferment in the certification area. There is strong evidence of desire to reduce the number of different kinds of special education teaching certificates issued by state departments of education. This problem will be a challenge in many states. A second general challenge comes in the PBTE framework. Although controversial and technically very difficult, it appears, generally, that special educators and their close colleagues wish to shift the emphasis to performance as the criterion for certification rather than to settle for mere process criteria. Still a third area of this ferment is concern that certification be only for short terms, and that performance criteria be applied in the processes for the renewal of certification. Each of these topics shows a wide dispersion of opinions and will surely produce lively discussion as the PS&G project unfolds.

Respondents to this survey gave no evidence of readiness to abandon processes of accreditation for preparation programs (such as teacher education) or even to settle for any of the diminished forms of accreditation being advanced by various groups at this time. Indeed, the evidence was to the contrary and to the effect that the present system of voluntary regional and national accreditation should be strengthened and, in particular, that such accreditation processes should be focused on specific fields—such as special education—with more care than in the past. This attitude portends some difficulties, for at the very moment of this positive expression the general mechanisms for national voluntary accreditation in teacher education are in a state of crisis.

A particular concern emerging in the survey was that gifted children, although needing and deserving specialized attention, may not receive the help they need. It is noteworthy that several of the very large desirability–likelihood (D>L) discrepancies appeared on items relating to this group of children.

With sufficient attention, perhaps the relatively unpromising future of that field, as now foreseen by respondents to this survey, can be turned to something of brighter tenor.

Finally, a few very general observations about results of the survey are offered. The first concerns the understandable but noteworthy tendency of various subgroups to inflate their own roles as compared with others. For example, on questions concerning the control of funds for inservice education, subgroups such as state directors of special education, college professors, and special education teachers each see themselves as properly exercising strong elements of control. Hopefully, these tendencies toward difference will not become the object of enhanced competitive efforts for enlargement of control but, rather, will be seen as signs of need for increased interaction and understanding.

Second, there is some suggestion of a broad clustering of views on many topics such that a very simple structure might account for many of the differences shown in this survey. Evidence for this was shown in an intriguing way on the early-to-late adopter scale. Apparently, self-labeled late adopters are opposed to a wide variety of changes which are being advocated by self-labeled early adopters. The fact that big city respondents tended more often to be early adopters is also of interest.

Third, there apparently is more readiness to support research and development activities in institutions of higher education than might have been guessed by many observers. Perhaps the time is ripe to strengthen the capacity of these institutions which are so important and fundamental to special education.

Fourth, apparently regular teachers are more sold on the separation and the justification of special education categories than are special educators themselves. This finding can be interpreted, perhaps, as wishful thinking. Perhaps regular teachers like to feel that there are or at least should be specialists who can attend effectively to all of the problems of children which they find so difficult. Nevertheless, it is clear that a problem of interpretation to regular educators exists if special educators should undertake anything like a major redefinition of their field.

Fifth, one over-riding general expression appears at many points in

the survey results which might well be characterized as an *accountability* rubric. On almost every possible occasion, respondents to this survey expressed favorable attitudes toward institutional and personal efforts to (a) be more clear about goals; (b) justify publicly the processes to be used in the educational effort; and (c) document outcomes in terms of performance or product. This set of expectations is a challenge to the individual teacher, the college professor, the school, the state department of education, and every other entity that presumes to serve in the field of special education—and the challenge is great!

In general, the people who managed this DELPHI procedure are satisfied that a large fund of interesting and significant data has been obtained and that it might be well to extend the form for future use. Most future iterations of the survey might involve fewer items but pinpoint issues. In future surveys, it may also be well to settle for smaller samples and to intensify efforts for a high response rate. Response rate presented a difficulty in this instance, particularly in Round II. Nevertheless, the data obtained are considered to be of very high value. Researchers who wish to participate with the project staff in the more refined analysis of the data already on hand are invited to make inquiries to the project offices at CEC headquarters.

* * * *

Appendix A

The following questionnaire was used in both Rounds I and II of the DELPHI survey conducted by the Council for Exceptional Children's project on Professional Standards and Guidelines. For Round II, the questionnaire was marked with the mean values obtained for a sample of 1056 Round i respondents (enclosed in parentheses for each item in the first section and beside the answer alternative in the second section). Except for the added identification, the form in the Appendix is identical with that sent to the Round I participants.

THE COUNCIL FOR EXCEPTIONAL CHILDREN
PROJECT ON PROFESSIONAL STANDARDS AND GUIDELINES

Name: _____ Soc.Sec.No.* _____

Position: _____ Phone No.: _____

Organization: _____

Address: _____

_____

DELPHI SURVEY: ROUND II

Instructions:

In the first set of items on the following pages you are asked to provide ratings on the likelihood and the desirability of certain trends or changes which would be of importance in the field of special education should they occur. The time frame is "within the next decade." Unless specific wording indicates otherwise, please assume that all items refer to the field of special education.

Statements concerning particular changes or trends are given on the left side of the form. Your responses should go directly on the form to the right of each of the change statements. Please draw a circle around a number in the continuum from one (1) to seven (7) which best represents your view of each change item's likelihood and its desirability.

You will note that on "likelihood" the continuum ranges from "impossible" to "virtually certain." On "desirability" the continuum ranges from a flat "no" to a flat "yes." If you believe some of the items are ambiguous or troublesome or if you wish to offer comments for any reason you are invited to write whatever you wish directly on the form; but please try to answer all items in any case. Please keep in mind that the time frame used in the survey is "within the next ten years."

Note:

The term "categorical" as used in this survey refers to categories of children - such as the mentally retarded, visually handicapped or emotionally disturbed, etc. - as sometimes used in the field of special education.

* Used for data analysis convenience only.

Change Statement	Likelihood: What is the likelihood this change will occur? (Circle One) Impossible 1 2 3 4 5 6 7 Virtually Certain	Desirability: Should this change occur? (Circle One) No 1 2 3 4 5 6 7 Yes
1 Installation in regular schools of broad systems for individualizing instruction will make it possible for many children with mild and moderate degrees of handicaps to remain in regular classes and thus to remove them from the field of special education.	1 2 3 4 **5** 6 7 (5.0)	1 2 3 4 5 **6** 7 (6.1)
2 College professors of special education will offer a large proportion of their instruction in field situations rather than on the college campus.	1 2 3 4 **5** 6 7 (4.6)	1 2 3 4 5 **6** 7 (6.1)
3 "Self-contained" learning systems for teacher preparation in the field of special education (such as multimedia modules, computer assisted instruction, etc.) will become broadly available and widely used in colleges and universities.	1 2 3 4 **5** 6 7 (4.6)	1 2 3 4 **5** 6 7 (5.1)
4 College programs for special education personnel will be conducted on the basis of individually negotiated plans rather than according to standard courses and schedules.	1 2 3 **4** 5 6 7 (4.1)	1 2 3 4 5 **6** 7 (5.5)
5 Many states will mandate application of "Performance Based Teacher Education" systems in certification of teachers.	1 2 3 4 **5** 6 7 (4.9)	1 2 3 4 5 **6** 7 (5.3)
6 "Applied" Behavior Analysis," "Contingency-management" and other approaches to education which flow from behavioristic principles (Skinner) will be increasingly influential in the field of special education.	1 2 3 4 5 **6** 7 (5.3)	1 2 3 4 **5** 6 7 (5.1)
7 Continuing and inservice education for special education personnel already in the field will be increased.	1 2 3 4 5 **6** 7 (5.9)	1 2 3 4 5 6 **7** (6.7)
8 Salaries and promotions for special education personnel will be based on professional performance criteria rather than course credits, degrees, tenure, or "inservice" credits.	1 2 3 **4** 5 6 7 (3.8)	1 2 3 4 5 **6** 7 (5.5)

Change Statement	Likelihood: What is the likelihood this change will occur? (Circle One) Impossible 1 2 3 4 5 6 7 Virtually Certain	Desirability: Should this change occur? (Circle One) No 1 2 3 4 5 6 7 Yes
9 Teachers and other special education personnel will be depended upon individually without sanction by any group to take only positions for which they are qualified.	1 2 3 4 5 6 7 (3.5)	1 2 3 4 5 6 7 (4.7)
10 Major changes in programs for the exceptional child will be undertaken only after negotiation of such changes with parents and/or children themselves and allowing for "due process" procedures.	1 2 3 4 5 6 7 (4.7)	1 2 3 4 5 6 7 (5.2)
11 Accreditation of colleges will be offered simply on the basis of financial stability and general accuracy of catalogues which announce programs.	1 2 3 4 5 6 7 (2.6)	1 2 3 5 6 7 (1.9)
12 Increasing reliance upon performance based certification of teachers will largely eliminate the need for accreditation of training programs.	1 2 3 4 5 6 7 (2.7)	1 2 3 4 5 6 7 (2.7)
13 Both regional and national accrediting agencies will devise new techniques and methods so that college programs in specific fields such as special education may be scrutinized more closely.	1 2 3 4 5 6 7 (4.9)	1 2 3 4 5 6 7 (5.8)
14 The U.S. Office of Education or some other federal agency will be either the official or the de facto accrediting body for college programs to prepare special education personnel.	1 2 3 4 5 6 7 (3.4)	1 2 3 4 5 6 7 (2.6)
15 In order to encourage innovation, standards for accreditation of colleges and universities in the field of teacher education will be made much more flexible.	1 2 3 4 5 6 7 (4.5)	1 2 3 4 5 6 7 (5.4)
16 The role of colleges in certification of special teachers will decline.	1 2 3 4 5 6 7 (3.3)	1 2 3 4 5 6 7 (3.2)

Change Statement	Likelihood: What is the likelihood this change will occur? (Circle One) Impossible 1 2 3 4 5 6 7 Virtually Certain	Desirability: Should this change occur? (Circle One) No 1 2 3 4 5 6 7 Yes
17 Undergraduate training for special education teachers will tend to be replaced by graduate programs as required for entry to the field.	1 2 3 4 5 6 7 (4.5)	1 2 3 4 5 6 7 (4.4)
18 Special education certification in most areas will require prior certification for "regular" teaching.	1 2 3 4 5 6 7 (4.4)	1 2 3 4 5 6 7 (4.5)
19 Beyond some general type of special education certification, teachers will document their own specific competencies thus permitting the simplification of specialized certification and/or endorsement procedures by states.	1 2 3 4 5 6 7 (3.6)	1 2 3 4 5 6 7 (4.2)
20 Renewal of teaching certificates will be required periodically for all teachers of special education.	1 2 3 4 5 6 7 (5.3)	1 2 3 4 5 6 7 (6.0)
21 Certification procedures will allow much individuality among teachers, rather than to require common patterns of preparation or competencies.	1 2 3 4 5 6 7 (4.1)	1 2 3 4 5 6 7 (5.2)
22 Certification in areas of educable mental retardation, learning disabilities and "emotional disturbance" will be disbanded in favor of some more general certification in special education.	1 2 3 4 5 6 7 (4.2)	1 2 3 4 5 6 7 (4.5)
23 Many former teachers of the handicapped will be retrained and employed in roles which are consultative and supportive to regular teachers, rather than in special classes and special agencies.	1 2 3 4 5 6 7 (4.9)	1 2 3 4 5 6 7 (5.4)
24 Teacher education programs (in special education) across the nation will show less standardization in the future.	1 2 3 4 5 6 7 (4.3)	1 2 3 4 5 6 7 (4.8)
25 Systems for publication or other forms of "sharing" materials and ideas about training programs will become common among colleges and universities.	1 2 3 4 5 6 7 (5.0)	1 2 3 4 5 6 7 (6.5)

Change Statement	Likelihood: What is the likelihood this change will occur? (Circle One) Impossible 1 2 3 4 5 6 7 Virtually Certain	Desirability: Should this change occur? (Circle One) No 1 2 3 4 5 6 7 Yes
26 The future development of special education programs will depend more upon philosophical justifications and less on claims for economic and social benefits.	1 2 3 **4** 5 6 7 (3.5)	1 2 3 **4** 5 6 7 (4.3)
27 Court actions will continue to create forces which require major redesign of special education programs.	1 2 3 4 5 **6** 7 (5.5)	1 2 3 4 **5** 6 7 (4.9)
28 Manpower studies will be utilized to exert controls on admissions to training programs in special education.	1 2 3 4 **5** 6 7 (4.6)	1 2 3 4 **5** 6 7 (4.8)
29 Colleges and universities will form consortiums within states and regions for purposes of planning special education training programs.	1 2 3 4 **5** 6 7 (5.0)	1 2 3 4 5 **6** 7 (6.0)
30 More special education professional personnel will be recruited from the ranks of successful aides and paraprofessionals.	1 2 3 4 **5** 6 7 (4.7)	1 2 3 4 5 **6** 7 (5.3)
31 High school students will be recruited to training programs for specific roles in the field of special education.	1 2 3 4 **5** 6 7 (4.5)	1 2 3 4 **5** 6 7 (5.0)
32 Special educators will be expected to write contracts concerning goals for individual children as an aspect of program and teacher accountability.	1 2 3 4 **5** 6 7 (5.0)	1 2 3 4 5 **6** 7 (5.3)
33 Local schools will turn increasingly to referral of severely handicapped children to private schools for service.	1 2 3 **4** 5 6 7 (3.6)	1 2 3 **4** 5 6 7 (3.3)
34 Specialized school programs for the gifted will become at least as well supported financially as programs for the handicapped.	1 2 3 **4** 5 6 7 (3.9)	1 2 3 4 5 **6** 7 (5.7)
35 Special education directors, "resource teachers," "consultant teachers" and other personnel carrying leadership responsibilities for special education programs will include "the gifted" as a major area of concern.	1 2 3 4 **5** 6 7 (4.5)	1 2 3 4 5 **6** 7 (5.8)

Change Statement	Likelihood: What is the likelihood this change will occur? (Circle One) Impossible 1 2 3 4 5 6 7 Virtually certain	Desirability: Should this change occur? (Circle One) No 1 2 3 4 5 6 7 Yes
36 Special Education Departments in colleges and universities will tend to disappear, as such, in favor of functions which emerge in other departments—such as in Elementary Education, Secondary Education, Early Childhood Education, Career Education, etc.	1 2 3 4 5 6 7 (3.3)	1 2 3 4 5 6 7 (3.3)
37 Many more Speech Pathologists will perform as trainers of teachers, thus working more indirectly in influencing the school environment rather than as clinical specialists.	1 2 3 4 5 6 7 (4.1)	1 2 3 4 5 6 7 (4.8)
38 Although some other specializations may disappear or vary considerably from time to time and place to place, teaching the hearing handicapped will remain a distinctly special area for teacher preparation and service.	1 2 3 4 5 6 7 (5.6)	1 2 3 4 5 6 7 (5.5)
39 Preschools and day care centers will regularly enroll children who show mild and moderate degrees of exceptionality without any special categorization or special placement.	1 2 3 4 5 6 7 (5.2)	1 2 3 4 5 6 7 (5.6)
40 Local school districts will take on responsibilities for conducting educational programs for even the most profoundly handicapped children of the community.	1 2 3 4 5 6 7 (4.7)	1 2 3 4 5 6 7 (5.3)
41 Although some other specializations may disappear or vary considerably from time to time and place to place, teaching the visually handicapped will remain a distinctly special area for teacher preparation and service.	1 2 3 4 5 6 7 (5.4)	1 2 3 4 5 6 7 (5.4)
42 "Voucher" systems will be widely adopted so that parents of handicapped children may choose where their children will be educated.	1 2 3 4 5 6 7 (3.6)	1 2 3 4 5 6 7 (4.0)

Change Statement	Likelihood: What is the likelihood this change will occur? (Circle One) Impossible 1 2 3 4 5 6 7 Virtually Certain	Desirability: Should this change occur? (Circle One) No 1 2 3 4 5 6 7 Yes
43 School psychologists will do much less testing and more consulting and/or training in schools.	1 2 3 4 **5** 6 7 (4.6)	1 2 3 4 5 **6** 7 (5.7)
44 Whether or not other special education areas move toward a non-categorical model, the field of speech therapy will persist on a distinct and separate tract.	1 2 3 4 **5** 6 7 (4.9)	1 2 3 4 **5** 6 7 (4.6)
45 Special education teachers and other related school personnel will spend increasing amounts of time consulting and planning with parents of exceptional children.	1 2 3 4 5 **6** 7 (5.3)	1 2 3 4 5 6 **7** (6.4)
46 Populations of handicapped children in residential institutions (including special schools, mental hospitals, etc.) will continue to decline.	1 2 3 4 5 **6** 7 (5.2)	1 2 3 4 5 **6** 7 (5.8)
47 The demand in local educational agencies for supervisors, administrators and other "leaders" of special education programs will increase.	1 2 3 4 5 **6** 7 (5.3)	1 2 3 4 5 **6** 7 (5.6)
48 Inservice education for special education teachers will be controlled largely by teachers associations or unions.	1 2 3 **4** 5 6 7 (3.8)	1 2 **3** 4 5 6 7 (2.7)
49 The training of "specialized" teachers will be conducted in large part by offering intensive inservice training modules for selected regular teachers who wish to go into special education.	1 2 3 **4** 5 6 7 (4.2)	1 2 3 **4** 5 6 7 (4.1)
50 Interstate transfer of special teacher credentials will be simplified and regularized.	1 2 3 4 **5** 6 7 (5.0)	1 2 3 4 5 **6** 7 (6.4)
51 The use of instructional technology for teacher preparation will diminish in favor of more "eyeball to eyeball" instruction.	1 2 3 **4** 5 6 7 (3.9)	1 2 3 4 **5** 6 7 (4.7)

Change Statement	Likelihood: What is the likelihood this change will occur? (Circle One) Impossible 1 2 3 4 5 6 7 Virtually Certain	Desirability: Should this change occur? (Circle One) No 1 2 3 4 5 6 7 Yes
52 Broadly defined "core" components will displace at least half of the present categorical instruction now offered in most special education departments of colleges and universities.	1 2 3 4 5 6 7 (4.7)	1 2 3 4 5 6 7 (5.3)
53 Criteria-based or domain referenced testing and diagnostic procedures will largely displace norm-referenced procedures in studying exceptional children.	1 2 3 4 5 6 7 (5.0)	1 2 3 4 5 6 7 (5.8)
54 "Performance based teacher education" will sweep the field and become dominant in special education.	1 2 3 4 5 6 7 (4.5)	1 2 3 4 5 6 7 (5.0)
55 More paraprofessionals will be employed in the field of special education.	1 2 3 4 5 6 7 (5.4)	1 2 3 4 5 6 7 (5.8)
56 Special educators will lead the way in expanding programs for handicapped students in secondary schools and vocational education.	1 2 3 4 5 6 7 (5.3)	1 2 3 4 5 6 7 (6.3)

DELPHI SURVEY: ROUND II

Instructions:

Please answer each of the following items in the manner indicated. In some cases you will need to check carefully to see that your total allocation of percentages adds up to 100%. Add comments on items directly on the form as you wish, but please try to answer all questions even if they seem ambiguous or difficult.

On the average, State Departments of Education now issue about seven or eight different kinds of special education certificates. How many different kinds of such certification (in special education) will the average state offer in:

57. 1978? _____ (6.7) 58. 1983? _____ (6.4)

How many different kinds of special education certification would the "average" state offer if you had control of the whole situation in:

59 1978? _____ (5.4) 60. 1983? _____ (5.5)

Assuming that there are about 50,000 special classes for "educable mentally retarded children" in elementary and secondary schools of the U.S. this year, how many such classes do you think there will be in:

61. 1978? _____ (51,394) 62. 1983? _____ (51,064)

If you had your way, how many such classes would there be in:

63. 1978? _____ (47,068) 64. 1983? _____ (50,659)

Assuming that there is a strong movement in the next decade in the direction of at least some of the concepts in Competency/Performance Based Teacher Education, who is going to be responsible for evaluating individuals for competencies? To be specific, consider this hypothetical case: a substantial number of regular teachers initiate claims for special education certificates on the basis of "competencies" they are willing to demonstrate. Who do you think should be responsible for checking out their competencies? If you were in control of the situation and could name twenty people to be responsible for the checking of individual competency claims, how many of them would be:

65 Special education teachers? _____ (5.9)
College professors of special education? _____ (4.6)
Parents and community representatives? _____ (2.6)
Local special education administrators? _____ (3.5)
State Department of Education staff? _____ (2.3)
Others (please describe)? _____ (1.1)

_____

Your total should be: 20

If you were authorized to appoint a twenty-member board in your state which had the power to certify all special education personnel, who you would you appoint? How many would be:

66. Para-professionals? _____(0.9)
67. Teachers? _____(4.6)
68. Parents of Exceptional Children? _____(2.2)
69. Children or Students (K to 12th)? _____(0.7)
70. College Professors? _____(3.7)
71. Local School Administrators? _____(2.7)
72. State School Officials? _____(2.3)
73. General Community Leaders? _____(1.2)
74. College Students in Special Education? _____(1.0)
75. Others (Specify)? _____(0.7)

_____

Be sure that your total is 20

If you had control of all resources in colleges and universities in the field of special education in the U.S. for the next decade, what percentages would you assign to the following kinds of activities or functions? Be sure your total adds up to 100%.

76. Research and Development (developing and testing new ideas) _____(19.6)

77. Training teachers and all other needed special education personnel _____(39.5)

78. Policy development (work on legislation, professional standards, etc.) _____(11.0)

79. Direct services to schools, children and parents (consulting with school districts, contributing to clinical studies, workshops, etc.) _____(29.9)

Total = 100%

Considering only training functions, what percentage of the total of special education training resources of colleges and universities in the U.S. would you allocate to training of:

80. Paraprofessionals for the field of special education? _____ (11.0)

81. Special education teachers? _____ (34.8)

82. Special education administrators? _____ (10.9)

83. Regular teachers in special education concepts and skills? _____ (21.5)

84. Research specialists? _____ (10.3)

85. College professors for teacher training? _____ (11.6)

Total = 100%

What percentages of the total funds for continuing education and retraining of special education personnel would you assign to each of the following? Be sure your total adds up to 100%.

86. Colleges and universities _____ (37.3)

87. Local schools _____ (26.9)

88. State Education Departments _____ (15.8)

89. Teacher Organizations _____ (6.3)

90. Individual teachers, for use as they choose. _____ (11.9)

91. Other (Specify) _____ (1.9)

_____

Total = 100%

In what size community do you work? Answer in terms of the local school system with which you have closest identity on the basis of employment or residence. Total population is (check one):

92. Below 50,000 _____

93. Between 50,000 and 300,000 _____

94. Above 300,000 _____

As compared with your colleagues or persons in your kind of work, how do you rate yourself, as an "early" or "late" adopter of new training procedures. Please check the one of the following categories which you think fits you best.

"As new ideas for training come along, I tend to be:

95. A late adopter _____

96. A "wait and see" type _____

97. About average _____

98. A rather strong advocate for early change _____

99. A very early adopter _____

In the section below, please check the one that most accurately pertains to you.

100.

State Director of Special Education	01__
State Director of Teacher Certification	02__
College Administrator–General	03__
College Faculty–Speech and/or Hearing	04__
College Faculty–Special Education	05__
College Student–Graduate	06__
College Student–Undergraduate	07__
School Administrator–General	08__
School Administrator–Special (Public School Director Special Education)	09__
Teacher–Special	10__
Teacher–Regular Classroom	11__
Speech and/or Hearing Therapist	12__

Appendix B

CEC Projects in Professional Standards and Guidelines

Results Summary

In the attached Round I summary table, the several columns of data for items #1-#56 may be interpreted as follows: the first column gives the items in the order they appeared on the survey form (see Appendix A for a copy of the form). The next column gives the N or number of usable replies available at the time of data summary. Next, under the "likelihood" heading, the means, medians, and standard deviations of responses for the total group are given for this dimension. For example, the mean "likelihood" response on item #1 was 4.99, the median, 5.03, and the standard deviation, 1.29. The final three columns give comparable summary data for each item on the "desirability" dimension.

For items #57 through #100, the data are reported somewhat differently because of variation in item format. Readers are asked to refer to the survey form in Appendix A and to examine particular items so the meaning of the data reported will be clear. For items #57 through #91, for example, respondents were asked to supply numbers representing their predictions or preferences. The summary data reflect Ns (number of usable responses), means for the total groups, and the standard deviations for the total group. Items #92-#94, #95-#99 and #100 called for classifications; for these items, the data given in the Table reflect the frequency and percentage of responses in a particular cell within each set.

Appendix B

CEC First-Round Analysis

Results Summary

Item Number 1-56	n	Response Statistics: Likelihood $\overline{X}$	Likelihood Mdn.	Likelihood σ	Desirability $\overline{X}$	Desirability Mdn.	Desirability σ
1	1056	4.99	5.03	1.29	6.13	6.62	1.32
2	1057	4.63	4.73	1.37	6.10	6.45	1.18
3	1056	4.55	4.60	1.30	5.07	5.23	1.54
4	1053	4.11	4.13	1.47	5.46	5.82	1.56
5	1042	4.92	5.03	1.43	5.29	5.65	1.63
6	1046	5.29	5.33	1.16	5.10	5.22	1.49
7	1060	5.89	6.08	1.15	6.70	6.87	0.69
8	1059	3.79	3.83	1.47	5.48	5.84	1.55
9	1042	3.45	3.41	1.53	4.68	5.13	2.09
10	1048	4.67	4.82	1.55	5.21	5.53	1.63
11	1046	2.59	2.28	1.47	1.87	1.32	1.41
12	1053	2.71	2.50	1.43	2.69	2.07	1.86
13	1057	4.85	4.97	1.34	5.83	6.11	1.30
14	1046	3.42	3.42	1.62	2.60	2.07	1.75
15	1057	4.46	4.56	1.48	5.42	5.85	1.63
16	1053	3.25	3.14	1.54	3.20	2.95	1.83
17	1047	4.51	4.67	1.53	4.42	4.73	2.00
18	1049	4.35	4.41	1.57	4.54	4.98	2.10
19	1039	3.64	3.66	1.46	4.19	4.30	1.82
20	1052	5.25	5.52	1.54	6.02	6.45	1.33
21	1050	4.05	4.12	1.53	5.23	5.69	1.72
22	1041	4.21	4.34	1.68	4.46	4.95	2.17
23	1049	4.87	5.00	1.38	5.42	5.80	1.60
24	1044	4.29	4.34	1.46	4.84	5.13	1.75

Item Number 1-56	n	Response Statistics: Likelihood $\bar{X}$	Likelihood Mdn.	Likelihood σ	Desirability $\bar{X}$	Desirability Mdn.	Desirability σ
25	1049	5.03	5.11	1.39	6.46	6.69	0.82
26	1054	3.50	3.44	1.47	4.28	4.34	1.90
27	1054	5.48	5.67	1.30	4.86	5.01	1.73
28	1042	4.62	4.69	1.39	4.78	4.93	1.71
29	1057	4.96	5.05	1.36	6.03	6.29	1.15
30	1058	4.65	4.79	1.40	5.25	5.55	1.56
31	1054	4.52	4.59	1.41	5.01	5.19	1.62
32	1060	5.04	5.16	1.41	5.28	5.67	1.67
33	1057	3.57	3.41	1.66	3.26	2.94	1.97
34	1059	3.91	3.82	1.66	5.68	6.15	1.56
35	1059	4.45	4.54	1.57	5.78	6.27	1.52
36	1052	3.31	3.23	1.45	3.30	2.97	2.00
37	1045	4.14	4.19	1.43	4.76	5.08	1.81
38	1050	5.56	5.75	1.22	5.46	5.86	1.58
39	1055	5.17	5.34	1.36	5.56	6.11	1.72
40	1055	4.67	4.92	1.73	5.29	5.92	1.89
41	1051	5.40	5.59	1.29	5.40	5.79	1.58
42	1044	3.58	3.61	1.44	4.01	4.12	1.90
43	1055	4.55	4.61	1.42	5.70	6.10	1.51
44	1050	4.86	4.96	1.38	4.55	4.73	1.81
45	1056	5.26	5.33	1.22	6.36	6.75	0.94
46	1056	5.17	5.37	1.41	5.83	6.24	1.44
47	1056	5.28	5.40	1.29	5.62	5.99	1.50
48	1050	3.78	3.84	1.47	2.74	2.31	1.71
49	1055	4.17	4.19	1.36	4.14	4.70	1.87
50	1057	5.03	5.16	1.41	6.39	6.68	0.98
51	1051	3.91	3.86	1.45	4.67	4.87	1.84
52	1044	4.74	4.79	1.20	5.25	5.57	1.52
53	1031	4.97	5.00	1.19	5.80	6.07	1.26
54	1048	4.52	4.66	1.37	5.03	5.24	1.60
55	1053	5.40	5.56	1.26	5.77	6.12	1.41
56	1048	5.31	5.43	1.32	6.27	6.58	1.00

Item Number	n	$\overline{X}$	ø
57	986	6.73	3.54
58	984	6.41	5.11
59	968	5.40	4.57
60	961	5.51	5.24
61	955	51,394	26,994
62	942	51,064	39,863
63	821	47,068	29,637
64	770	50,659	50,709
65 Set	970	5.91	5.93
CPSE	982	4.55	4.04
PCR	873	2.64	2.36
LSEA	960	3.49	3.02
SDES	891	2.31	2.25
Others	338	1.11	- - - -
66	537	0.92	1.05
67	952	4.60	3.02
68	857	2.21	1.43
69	356	0.70	2.68
70	966	3.66	2.60
71	932	2.74	1.96
72	913	2.31	1.74
73	642	1.17	1.14
74	583	1.01	1.16
75	203	0.67	- - - -
76	1014	19.64	9.67
77	1018	39.45	15.98
78	989	11.01	5.83
79	1012	29.89	16.22

Item Number	n	$\bar{X}$	σ
80	946	11.00	6.84
81	1000	34.76	14.65
82	985	10.90	6.15
83	998	21.49	13.75
84	971	10.29	6.73
85	974	11.56	6.50
86	999	37.27	19.32
87	957	26.85	16.36
88	916	15.75	12.03
89	611	6.28	6.61
90	774	11.92	12.59
91	101	1.93	----

Item		f	%
92		475	47.0
93		316	31.3
94		220	21.8
95		17	1.6
96		74	7.1
97		359	34.7
98		500	48.3
99		86	8.3
100	01	44	4.1
	02	35	3.3
	03	158	14.9
	04	34	3.2
	05	155	14.6
	06	120	11.3
	07	48	4.5
	08	104	9.8
	09	140	13.2
	10	93	8.8
	11	79	7.4
	12	20	1.9
	Soph	32	3.0